

American Gas *Association* MONTHLY

Selling Gas Air Conditioning

Accepting a Civic Challenge

Natural Gas Shows Vitality

Research and the Gas Future

Regulation and Original Cost



May

1940

VOLUME XXII NUMBER 5

**GAS GIVES YOU
INSTANT INTENSE HEAT
FOR SPEED**

**GAS GIVES YOU
FLEXIBLE HEAT
FOR SURER RESULTS**

**GAS GIVES YOU
CONTROLLED HEAT
FOR ECONOMY**

NOW GAS BRINGS YOU THE LAST WORD IN MODERN RANGES FOR COOL, CLEAN COOKING

Wouldn't you enjoy a cooler way of cooking this summer? And a range that you can keep sparkling clean with practically no effort?

The new Gas Ranges offer you a modern way of cooking that is cooler... cleaner... as well as more economical. With an up-to-the-minute Gas Range in your kitchen you can still be fresh and unruffled by the time dinner is ready. See why.

Modern Gas Cooking is Cooler—New scientific insulation keeps oven and broiler heat in.

The focussed flame of top burners directs heat toward the bottom of utensils instead of dissipating it up the sides. Simmer burners bring you new low flame cooking.

So Much Cleaner, too! Shining top burners are both non-clog and rust resistant. They stay bright, new-looking. Oven and broiler compartments are porcelain-enamel lined and wipe clean easily. The gleaming range surface is as easy to keep spick and span as a china dish.



Gas alone gives you all these advanced Range features

AUTOMATIC LIGHTING—No matches to strike—No waiting—Instant heat.
PRECISION OVEN—Pre-heats faster. Reaches high temperature of 500°—new low of 250°. Holds any temperature steadily.
HEAT CONTROL—Assures required oven temperature. No "guess-work" baking.
SMOKELESS BROILER—Perforated grill keeps fat away from flame. Eliminates objectionable smoke.

CLICK SIMMER BURNER—Dependable low economy flame with "click" signal for waterless cooking.

GIANT BURNER—For fastest top-stove cooking ever known. Extra wide heat spread for large utensils.

NEW TYPE TOP BURNERS—Concentrate heat on bottom of utensils—save gas—are non-clogging. Easy to clean.

SCIENTIFIC INSULATION—Holds oven and broiler heat in. Keeps kitchen cooler—saves gas.

This combination of work and time saving features, plus the proven advantages of Gas as a cooking fuel, makes the modern Gas Range the choice of housewives everywhere. See these handsome ranges at your Gas Company showroom or Appliance Dealer's. They're beauties!

THIS SEAL on a Gas Range assures you're getting all of the 22 super-performance standards established by the Gas Industry. It signifies the "Certified-Performance" of the Range that carries it—whatever makes you buy.



GAS

**SERVES YOU
BETTER
THROUGH MODERN
GAS APPLIANCES**



PLENTY OF HOT WATER ALL THE TIME ISN'T A LUXURY

An automatic Gas Water Heater keeps an ample supply on hand for only a few cents a day! And does it without any bother on your part. Gas Water Heaters are completely automatic—you don't have to wait for them to heat up or keep tabs on them. There are many new models—your Gas Company or Dealer will suggest the right type for your needs.

AMERICAN GAS ASSOCIATION

VISIT "GAS WONDERLAND"—EXHIBIT OF THE GAS INDUSTRIES AT THE NEW YORK WORLD'S FAIR



CONTENTS FOR MAY 1940



The accountants stepped into the spotlight last month with one of the most successful conferences ever held. Fortbriht statements on broad fundamental issues were the order of the day and widespread executive interest in accounting problems was reported. . . . In a timely article, the A. G. A. statistical department looks into the Natural Gas industry's impressive record. . . . Summertime brings air conditioning to mind and Kendall Castle steps to the front with a first-rate contribution on merchandising the gas-fired product. . . . If anyone's in a position to know the technique and possibilities of research, it's Ray Conner, our Laboratories' director, and he puts himself on the spot this month with a scholarly contribution on this much-discussed subject. . . . Last month the Association's new program to encourage gas companies to participate in civic affairs was aired. This month Mr. Warden tells what Oklahoma Natural Gas Company has done in that direction. . . . For real pep and meaty contributions, the Toledo industrial gas sales conference was tops. It's no hokum that stories of what gas is doing for industry made the magician on the program seem like a rank amateur.

PAGE	
163	A Live Conference—Accountants Make Vital Contributions
165	Natural Gas—A Statistical Review of the Industry's Expansion
167	Factors Involved in Merchandising Gas Air ConditioningKENDALL B. CASTLE
171	Forging the Future—Anticipating the Industry's Needs with Research.....R. M. CONNER
175	Tepees to Towers—Oklahoma Gas Company Accepts a Civic Challenge.....J. H. WARDEN
178	Gas International Cooking Schools Attract Large Crowds
179	Modernized Home Service Makes Its Bow
181	Personal and Otherwise
182	Convention Calendar
183	Affiliated Association Activities
185	Original Cost—The Regulatory Viewpoint....CHARLES W. SMITH
188	National Prizes Spur CP Gas Range Sales to 40 Per Cent Increase
190	Sales Promotion Pays Dividends at Hartford Exposition
191	Novel Promotion Stimulates Gas Water Heater Sales
192	Toledo Industrial Gas Sales Conference Sets Record-Breaking Precedent.....EUGENE D. MILENER
195	Going Ahead with Industrial Gas
196	Production and Chemical Conference to Focus Attention on Technical Problems
199	Requirements for Commercial Gas Cooking Equipment
200	Personnel Service

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THROUGH a front window of its gas office, Toledo learns that gas is versatile—that Toledo's life-blood, the industries which support one-third of its population, use enough gas per year to fill a 13-inch pipe girdling the globe $21\frac{1}{2}$ times! Toledo sees silk stockings, steel castings, ceramic ware, newspaper printing plates, spark plugs, home appliances, bumpers, safety glass, tools, paints and beer—plus a host of other Toledo-made items—and learns that gas helps to make them possible.

While this display (Toledo's first go at an industrial gas window) was stopping the residents last month, Lloyd C. Thomas, just two blocks away at the 1940 A. G. A. Conference on Industrial Gas Sales, was telling 215 gas men that Detroit has had no less than 66 industrial gas windows, and has found what Toledo will find—that you can't give the town enough of them—that they are "aces" for selling your company and selling your gas.



JAMES M. BEALL, *Editor*

A LIVE CONFERENCE

..... Accountants Make Vital Contributions

REFLECTING a nationwide swing from a passive and somewhat inactive executive interest in accounting matters, to an intense, active and spirited interest, the conference staged by the Accounting Section at White Sulphur Springs, W. Va., April 11 and 12, was by far the most productive and interesting yet held. "The best conference I ever attended," was the verdict of one executive and it was echoed throughout the meeting.

The 350 delegates who attended were truly representative of the accounting and executive talent of the entire industry, and included a goodly representation from the electric industry as well. Every State was amply represented—conclusively indicating the vital importance of the problems under consideration.

Not only was the program splendidly balanced, which in itself is a real achievement, but it represented a notable departure from past practice. Instead of concentrating on detailed accounting procedures, the program went directly to the heart of vital problems involving broad fundamental issues. All viewpoints—engineering, management, regulatory, and legal—were adequately represented and yet the program was by no means overloaded. In short, it was a tribute to the wise leadership and effective handling of Francis B. Flahive, chairman of the Accounting Section (comptroller of the Columbia Gas & Electric Corp.), and his co-workers on the Program Committee.

Major Alexander Forward, managing director of the Association, in expressing the Association's appreciation of the accountant's work struck the keynote when he pointed out that present-day regulatory trends had increased the ever-important role of the accountant to one of first im-

portance at this time. This thesis was amply substantiated later in the conference by Bernard S. Rodey, Jr., chairman of the E.E.I. General Accounting Committee, who, in considering the "growing pains" of the accountants, said: "Financial affairs of business have never been more complicated; the number and variety of reports never more numerous or exacting; the demand for useful information by management, by labor, by commission, by government, seems insatiable."

He cited statistics to show the astounding growth of utility accounting departments which represent 15 to 20 per cent of all employees engaged in the gas and electric industries. According to census figures reported there were some 39,000 accountants and auditors in 1910, approximately 191,000 in 1930, and today an estimated 250,000 or more. In addition, there are today some 900,000 bookkeepers and cashiers.

Also in 1910 there were 1,600 Certified Public Accountants while today there are some 19,000.



F. B. Flahive
Chairman, Accounting Section



E. N. Keller
Vice-Chairman, Accounting Section

The entire first general session of the conference was devoted to a symposium on "Original Cost"—the most controversial and the most fundamentally vital problem before the industry and the governmental bodies charged with its regulation. The regulatory viewpoint was ably and frankly presented by such outstanding speakers as Charles W. Smith, chief, Bureau of Accounts, Finance and Rates of the Federal Power Commission and the Honorable Alexander M. Mahood, past president of the National Association of Railroad and Utility Commissioners, and a member of the West Virginia Public Service Commission. Mr. Smith's paper is printed in full on page 185 of this issue.

In fact, throughout the entire session, there was a refreshingly frank and spirited presentation of the various viewpoints on original cost in marked contrast to the reticence and delicacy that has characterized the utility presentations, at least in former discussions of this subject.

Marcy L. Sperry, president of the Washington Gas Light Company, presented the viewpoint of the management on original cost in a manner to indicate the considerable concern with which the senior executives are regarding the question. He frankly pointed out the possible economic effects on the financial standing of the industry implicit in the definition of original cost, as well as the treatment of other valid costs as prescribed in the more recent systems of accounts.

Public Responsibilities

In a closing appeal for mutual cooperation and understanding Mr. Sperry said: "Our industry is a public one and we have delegated to us privileges that are greater than many enterprises can assume. Those privileges entail definite responsibilities to the public of which we are a part and not the least of these is that of cooperation with other public bodies—particularly with our regulatory commissions. Only so long as industry and regulatory authorities uninterruptedly fulfill their public responsibilities will private enterprise continue to maintain its proper position in this or any other field. Participation in this conference by representatives of both the regulatory authorities and our industry indicates a mutual desire for continued cooperative service."

The presentation of the legal viewpoint by Stoddard M. Stevens, Jr., partner in the firm of Sullivan & Cromwell, was most timely, not only as Mr. Stevens stated "it involves important constitutional problems," but his judicial treatment of the subjects was well received by the delegates and rounded out the symposium by almost suggesting a forecast of the next step in settling such differences of opinion as continue to exist.

Last, but not least, Stuart F. Koters, of Stone and Webster Engineering Corporation, presented the engi-

neering viewpoint. While reflecting fully the engineer's penchant for exactitude, Mr. Koters' address left nothing to be desired in the matter of frankness as a result of his experience.

The wide diversity of subjects at the second general session was equally well received by the audience. It would be unfair in the space available to attempt to give due credit to all speakers, or to pick certain addresses for special mention. The addresses varied from such important subjects as "Recent Developments in Accounting Principles"—a splendid presentation by Carman G. Blough, manager of Arthur Andersen & Company, and formerly chief ac-

Papers presented at the Spring Accounting Conference in White Sulphur Springs, W. Va., April 11 and 12, are being printed and will be distributed to the accounting delegates.

countant of the S.E.C.,—"Pension Financing" by H. Walter Forster, president of Towers, Perrin, Forster & Crosby of Philadelphia.

A most unique feature of the session was the graphic presentation of T. Z. Franklin, manager of the Special Hazard Department of Aetna Insurance Group of Hartford, Connecticut, of fire and explosion hazards and their prevention. Mr. Franklin spoke extemporaneously, but with the aid of various and unique "props" impressed everyone present with the need for utmost care in avoiding all common hazards.

C. W. Kellogg, president of the Edison Electric Institute, addressed the meeting on subjects indicating the importance of organized accounting effort, and emphasized the degree of mutuality existing in such problems in the gas and electric industries.

R. R. Blackburn, of the Southern California Gas Company, spoke on the subject of "Job Standards," very aptly illustrating his points with a motion picture showing time studies of specific operations. As usual our speaker from the Pacific Coast had an important message to deliver and Mr. Blackburn's paper and presentation was the subject of much discussion at subsequent meetings of the conference.

E. M. Tharp, vice-president and general manager of The Ohio Fuel Gas Company, closed the general session with a most inspirational address on "Making Good with the Customer." Mr. Tharp evidently loves as well as knows his subject, for he spoke without benefit of manuscript—and always to the point. The delegates' reception of this final address might be summed up in one man's comment "Good—the last drop."

The Thursday evening's General Accounting Conference was outstanding again illustrating that the Program Committee had struck the right keynote in presenting addresses on fundamental problems of vital interest to the industry. Under the able leadership of C. E. Packman, chairman of the General Accounting Committee, speakers of the highest prominence in their individual fields addressed the meeting on subjects of major importance.

A. C. Smith, manager of Price, Waterhouse & Company, presented the controversial subject of "Surplus—Capital and Earned." Mr. Smith went a long way toward clarifying the definition and usage of capital surplus.

S.E.C. Regulations

J. M. Bowlby, partner in Barrow, Wade Guthrie & Company, spoke on "S.E.C. New Accounting Regulations S-X." Mr. Bowlby gave the delegates the benefit of an extensive and careful study and interpretation of these new and coming requirements of the commission.

Mr. Packman, in addition to presiding, personally presented a paper on the subject of "Plant Acquisition Adjustments." Mr. Packman's paper proved a valuable addition to the extensive discussion of this subject.

On Thursday evening, the Customer Relations and Customer Accounting Committees held their open forum as scheduled and the meeting proved to be a complete success. H. R. Flanagan and E. M. Alt, chairmen of the two committees, cooperated in presenting four well-prepared subjects of timely interest which stimulated discussion to such an extent that it was necessary to stop the questions to allow time for all of the papers. This is the only criticism that can be made of the meeting.

(Continued on page 187)

Natural Gas . . . A Statistical

Review of the Industry's Expansion

PRELIMINARY estimates indicate that the total production of natural gas in 1939, including amounts used for the manufacture of carbon black and for field purposes, reached a total of two trillion, 200 billion cubic feet. Sales of natural gas for domestic uses rose from 353,000,000,000 cubic feet in 1938 to 377,000,000,000 cubic feet in 1939, an increase of nearly 7%. Sales for industrial and commercial purposes registered an even more pronounced upturn rising from 860,000,000,000 cubic feet in 1938 to 958,000,000,000 cubic feet in 1939, representing a gain of more than 11%. Revenues of the industry aggregated some \$450,000,000 or more than 8% above the preceding year.

At the end of 1939 natural gas was available to towns and cities with a population of approximately thirty-four million people.

Large Capital Employed

The automobile business has long been considered one of the most basic of the great industries of the United States, affording employment to many thousands and manufacturing a product which has become essential to the complex industrial civilization of this country.

Yet the average person would probably be surprised to learn that the investment in the natural gas industry is almost double the amount of capital employed in the production of automobiles. While some \$1,369,631,000 has been invested in the automotive plants of this country, over \$2,400,000,000 of capital is required to provide natural gas service to the 7,479,000 customers of this great industry.

Approximately 64,000 people are employed by the natural gas companies of this country at an annual payroll in excess of \$103,488,000. An interesting sidelight on the contribution of the

- When the annual convention of the Natural Gas Section convenes in Houston, Texas, May 6-10, the eyes of the nation will be focussed on this fast-growing industry. Scores of reports and papers by outstanding experts will highlight the accomplishments of the past year and tackle many of its problems. The April issue of the MONTHLY, starting on page 140, gives the detailed program.
- In this period of stock-taking and planning, it is pertinent to review the statistics which tell the story of the industry's remarkable expansion in recent years. They are especially significant in view of general business conditions. The accompanying material has been compiled by Paul Ryan, chief statistician, American Gas Association.

gas industry toward improved living conditions for the workers engaged in supplying this essential service is indicated by the fact that, whereas in the peak year 1929 the average employee in the natural gas industry worked 49 hours per week, by 1938 this had been reduced to 40 per week, and yet his average weekly earnings for the 40-hour week were 16 per cent higher than in 1929.

Per Capita Investment

An important factor in this accomplishment, and in the maintenance of the high standard of service to which natural gas customers have become accustomed, is the tremendous amount of capital that stands back of each worker in the natural gas industry. For example, in the automobile industry, approximately \$2,600 has been invested in plant and machinery for each worker employed. In the case of steel, this figure is about \$7,000, while the railroads have an investment of approximately \$23,400 for each em-

ployee. Yet the average worker in the natural gas industry has behind him the tremendous investment of \$38,000.

One of the outstanding developments in the natural gas industry during the past decade and a half has been the expansion into territories and markets formerly served with manufactured gas.

In 1938 there were some 84 former manufactured gas companies distributing straight natural gas of approximately 1,000 B.t.u. to 1,991,911 customers who purchased 154,099,849 M cubic feet of natural gas or 1,540,998,490 therms, for which they paid \$89,598,353, an average rate of 5.8c per therm.

Trend to Natural Gas

In 1923 these same companies were distributing manufactured gas of about 530 B.t.u. to 1,412,662 customers who purchased 60,458,813 M cubic feet of manufactured gas or 320,431,700 therms, for which they paid \$58,028,262, an average of 18.1c per therm.

In addition there were in 1938, 28 former manufactured gas companies serving mixed gas of approximately 840 B.t.u. to 1,771,841 customers who purchased 60,800,039 M cubic feet of mixed gas or 510,720,328 therms for which they paid \$66,489,987, an average rate of 13c per therm.

In 1923 this same group of companies sold manufactured gas of approximately 530 B.t.u. to 1,429,813 customers who purchased 63,459,320 M cubic feet of manufactured gas or 336,334,396 therms, for which they paid \$59,803,023, an average rate of 17.8c per therm. In other words, the number of consumers actually using gas in 1938, had they paid the rates of 18.1c and 17.8c, respectively, in force in 1923, would have had to pay \$124,260,500 more for the equivalent service in 1938 alone.

In the sixteen year interval from

1923 to 1938, manufactured gas has been replaced by natural gas or mixed natural and manufactured gas in communities with a population of nearly 19,800,000 people, and approximately 3,764,000 customers have been affected by the change. During this same period natural gas has been made available to over 2,300,000 customers who had not previously been served with any gas fuel.

In considering this expansion of the natural gas industry, the question naturally arises of its relationship to other phases of the public utility business.

For example, it has been pointed out that in 1939 revenues of the Electric Utilities aggregated \$2,304,000,000, while revenues of natural gas utilities were only \$445,971,000. Such a superficial comparison, however, ignores some of the basic differences inherent in these two branches of the utility industry, and has been responsible for many of the erroneous conclusions concerning the relative status and functions involved in the supply of gas and electric energy.

Energy Exceeds Electricity

For example in 1939 the electric companies sold to consumers some 107,000,000,000 Kilowatt hours. Reduced to a common denominator, or thermal basis, this amounted to 365 trillion British Thermal Units. During that same year natural gas utilities sold 1,323,358,000,000 cubic feet of natural gas, which reduced to the same common denominator or thermal basis, amounted to 1323 trillion British Thermal Units, or nearly four times the quantity of energy distributed in the form of electricity.

Reducing these astronomical figures to unit terms may perhaps make this point clearer. If a buyer were in the market last year for a million British Thermal Units of energy, he could purchase them in the form of natural gas for \$0.34, and in the form of electric energy for \$6.31.

It is doubtless for this reason that the electric industry is to an increasing extent, turning to natural gas as an economical and dependable method of power production. In 1939 approximately 191 billion cubic feet of nat-

ural gas were used as fuel for generating electric power. That is to say, nearly one-fifth of all the steam generated electricity of this country was produced by natural gas.

The increasing acceptance of natural gas as the ideal fuel for domestic purposes is indicated by the results of a recent survey. Reports were received covering the utility characteristics of more than 117,600 one and two family homes constructed in 1939.

Of the 117,600 homes reported on, 76,900 were located in territory served with natural gas. For this latter group of new and modern dwellings, 92 per cent reported the use of natural gas for cooking. Ninety-five per cent reported natural gas for water heating, 88 per cent used natural gas for house heating while 11 per cent reported the installation of new gas refrigerators.

The fact that these dwellings represent the most modern conception of design and serviceability, affords additional assurance of the continued progress and expansion of the natural gas industry.

Largest Diorama Gets New Dress



Manhattan section of the "City of Light," which is being repainted for the 1940 New York World's Fair exhibition by the Consolidated Edison Co. of New York, Inc., and its system companies. Ten thousand man-hours of work are providing "new thrills, animation and beauty" for the diorama which drew 7,500,000 visitors last year. Thousands of new architectural details have been added by repainting the exhibit, which enjoys new documentary values as a reproduction of present-day New York

Gas Dominates New Home Market

MORE than 90 per cent of all cooking, house heating and water heating appliances installed in new homes completed in Southern California last year were gas-fired, according to the annual report of the Pacific Lighting Corporation. Building of residences in that area assumed boom proportions in 1939, the report stated, pointing out that 39,537 units were completed in that year as compared with 27,004 units for the previous year which had been the peak for the decade.

Figures on installations in new homes in Southern California cited in the report showed that 99 per cent of the heating appliances installed were gas-fired, while 98 per cent of the water heaters, 93 per cent of the ranges and 20 per cent of the mechanical refrigerators used gas. The record of the gas refrigerator is considered exceptional in view of the fact that it competes with 23 makes of electric refrigerators in that area.

Remarkable acceptance of the CP gas range is indicated in the results of a campaign during which 10,400 CP ranges were sold in 51 days, the report stated. Total gas appliance sales through dealer and company outlets in the system's territory were shown as follows: 92,000 ranges, 116,700 water heaters and refrigerators, 25,800 central heating plants and floor furnaces, and 110,000 space heaters.

The annual report commended the erection of a permanent home for the A. G. A. Laboratories in Los Angeles and expressed satisfaction at the results of the national advertising campaign.

U. S. H. A. Housing Projects Use Gas Fuel

A SUBSTANTIAL volume of new business will be captured by gas companies as the result of decisions specifying the use of gas for cooking, water heating, space heating and refrigeration in projects of the U. S. Housing Authority, according to a survey by the American Gas Association.

Two hundred and ninety-two housing projects are accounted for to date, the Association reports, and these will rehouse 150,000 families who will account for at least 600,000 persons recruited from the lower income brackets.

Of the 292 projects contemplated, decisions on the cooking fuel to be used have been made in 225 projects. Of these, 179 will be gas. In 150 projects where the method of heating water has been decided, 82 have been turned over to gas. In specifying the fuel for the laundry in 179 projects, gas won out with 140 installations. Gas space heating has been specified in 87 of the 166 projects which have decided the heating question and gas refrigeration will be installed in 33 out of 171 projects.

Factors Involved in Merchandising Gas Air Conditioning



K. B. Castle

IN merchandising gas air conditioning or any air conditioning, it is a condition of air within an inclosed space that is being merchandised or sold and not a piece of equipment.

An industrial concern buys air conditioning equipment not for the satisfaction of owning equipment but to improve its product, increase the efficiency of its employees, decrease spoilage, to enable some particular process to be carried on regardless of weather conditions thereby increasing the days per year that its plant can operate; in other words, to increase its chances of earning a profit. A commercial concern installs conditioning for the same basic motive, although in this case the comfort of customers is the direct concern, efficiency of employees second.

In the domestic field it is comfort or health that a man buys, not equipment. The equipment in all fields is just the necessary means to the end that the purchaser must tolerate in order to secure the results desired.

The fact that the air conditioning industry is at least in part supplying the desired results is strongly brought out by its rapid growth in spite of continued business depression from a \$10,000,000 a year industry in 1932 to approximately an \$80,000,000 industry of today.

Paper presented before A. G. A. Conference on Industrial Gas Sales, Toledo, Ohio, Mar. 2-3, 1940.

By KENDALL B. CASTLE
*Rochester Gas & Electric Corp.,
Rochester, N. Y.*

Actually, practically any condition of air can be provided by a properly engineered installation of any type of equipment, if the purchaser chooses to pay the price.

The art and science of air conditioning is young enough to admit frankly that it has many problems and that some of the solutions to these problems have not always been perfect. The



Led by Charles R. Bellamy, of New York, experts on gas air conditioning thresh out their problems at the Toledo industrial gas sales conference

problems that are commonly met are many kinds. Some are constructional, some are operating problems, and some are due to limitations of the principles employed.

Since air conditioning involves both cooling and dehumidification and since these are often unrelated functions, it is obvious that the best results cannot always be obtained with equipment that does not effectively permit cooling and dehumidification as separately controllable operations.

If dehumidification cannot be achieved without too much cooling certain undesirable effects result. If an installation is designed for a given

relation between the cooling load and the dehumidification load and this relation really exists on the air conditioned premises, the results are fine. But if that relation does not exist and particularly where the relation is variable, the expected result may not materialize.

Each air conditioning installation is a problem in itself and must be engineered accordingly. As a result of all this, the actual cost of conditioning apparatus usually represents only 30 to 35 per cent of the cost of the final job. It is fortunate that the title of this talk is not "Factors Involved in Merchandising Gas Air Conditioning Equipment" for air conditioning equipment has not been successfully merchandised and will not be in the near future.

To merchandise equipment, you must have nearly a finished product to sell. With air conditioning equipment you have only a one third finished product. The public is interested in a finished product. The air conditioning industry must and now is furnishing a finished product, conditioned air. It is true that "Packaged Equipment" is now on the market and solves problems to the satisfaction of many purchasers, but even such equipment should be given the benefit of the air conditioning doctor's prescription. Until we have a "Packaged Requirement" to meet, a "Packaged Answer" will not be too satisfactory considering variations in climate, occupancy, artificial heat sources, sun exposure, humidity, space limitations, etc.

Gas-Using Equipment

If the gas industry wishes to break into this rapidly growing industry and



Dehumidification air conditioning is becoming vital to the candy industry. Hand dipping rooms such as this one as well as starch rooms, caramel rooms and packing rooms, are primary possibilities for gas air conditioning. The food industry is just one of many which are using gas air conditioning to good advantage

secure profit from it, it must first of all have equipment using gas that can produce conditioned air. Such equipment is already on the market in numerous different types. Furthermore, the equipment must be competitive. It must be able to produce a result at an overall expense that is attractive when compared to like results produced by other means, or it must, if it can, produce a better result at a premium price proportionate to the value of the higher quality.

If the particular problem is one of moisture removal with a high percentage of latent load, equipment of the Silica-Gel or activated alumina types gives an independent control of moisture from whatever equipment may be used for sensible heat removal. Considerable sensible heat removal can be obtained by using this type of equipment by proportioning it to over-dry the air, then using a dry air cooler to remove sensible heat at relatively high temperature and finally secure the sensible heat removal by re-evaporating a small amount of moisture into the air. Excellent results are being obtained with lithium chloride where the concentration of the lithium chloride solution governs the moisture content of the leaving air. The temperature of the leaving air may be entirely governed by the temperature of the solution or may be in part by the temperature of the solution and in part by cooling coils.

The absorption type of refrigeration equipment using gas as a source of energy has definitely entered the field. From the air standpoint it has the same advantages and disadvantages of standard electric installations. From the thermal efficiency standpoint it requires a greater energy input for a given result. However, the cost of energy in the form of gas is only a small fraction of the cost of an equal amount of electric energy.

Gas can also be used to generate steam for steam jet refrigeration equipment or for turbine drive of mechanical equipment the gas engine has often been used for the driving of compressors.

Where Air Conditioning Is Used

With air conditioning equipment being used and the gas industry having equipment available the next question that comes to mind is "Where in this country is air conditioning being used?" Many assume that a hot Summer is necessary. This is far from the case. The actual outdoor temperature seldom represents more than 25 per cent of the cooling load on an air conditioning installation. Normally 80 per cent of the load comes from radiant heat from the sun, moisture removal and internal heat loads of people, light, power uses and other heat liberating sources. As a result, it is natural that air conditioning should be used in sec-

tions of the country where large centers of population exist for in these locations internal loads within buildings pile up.

This is very forcibly brought out by analyzing the data presented in "Automatic Heat and Air Conditioning" of March, 1940. By far the greatest horsepower is installed in the Middle Atlantic States and next come the Northeast Central States. When population of the sections is considered, the Middle Atlantic States come first with 9.3 HP per 1000 of population. However, the Southwest Central States are now second with 6.9. The Northeast Central is third with 6.4 and the Northwest Central fourth with 6.1.

Installed horsepower in air conditioning per 1000 of population:

Section of Country	HP per 1000 Population
1. Middle Atlantic	9.3
2. Southwest Central	6.9
3. Northeast Central	6.4
4. Northwest Central	6.1
*5. South Atlantic	5.9
6. Pacific	3.0
7. Mountain	2.0
8. Southeast Central	1.6

* NOTE: The District of Columbia is included at 114.5 HP per 1000 population. Without the District of Columbia the ratio is 2.5 HP per 1000 population.

The leading six cities of the country are:

1. New York
2. Chicago
3. Washington, D. C.
4. Philadelphia
5. St. Louis
6. Detroit

Of these leading six, only Washington might possibly be considered a Southern city.

Of course, from the gas industry's standpoint, the Southwest Central Section of the country looks especially attractive because of the extremely low price for natural gas that prevails, but to offset this, it takes more jobs to produce the same increase in revenue. Higher gas rates in the North do not stop the gas industry from going after and getting gas space heating, so why should it stop it from going after and getting a gas Summer time load?

Competition

In going after the air conditioning load, the gas industry finds that it is up against very severe competition. From manufacturers you have to consider the sales efforts of giant concerns like Delco-Frigidaire of General Motors, Airtemp of Chrysler, General Electric and Westinghouse and the sales prestige of the old line air conditioning concerns like Carrier and York to mention only a few. There is also the part the electric utilities have played in promoting air conditioning that is far greater than is generally realized. Any threat to the net revenue of the electric utilities will be bitterly fought by them.

It is perfectly true that the electric utilities make little profit from the sale of power to operate compressors, but with the long hour use of fans and the increased use of lighting that goes along with air conditioning the overall picture is very attractive. The electric utilities look upon power as the field of the electric motor. They have too much at stake in other fields to welcome turbine or gas engine drives entering any field. From this consideration the adsorption, absorption and steam jet systems hold a distinct advantage for none of them use gas to create mechanical motion. Also turbine drives are more likely to be driven by steam produced by coal or oil than by gas and gas engine competes with the oil engine.

Electric Utilities Aid to Air Conditioning

The part played by the electric utilities in promoting air conditioning has varied greatly in various sections of the country. Their methods of promotion have also varied. It is very doubtful, if any accurate study has been made to determine how much promotion and of what type produces the most profitable results.

To obtain an idea of the extent one combined gas and electric utility has aided the promotion of air conditioning in their own territory, a review of the air conditioning jobs installed in Rochester, N. Y. was made. In January 1932 an engineer was assigned to spend half of his time studying and promoting Sum-

mer air conditioning. At that time there were one residence, three theaters, and parts of two banks air conditioned. In addition, there was a large amount of air conditioning used in several of the industrial concerns.

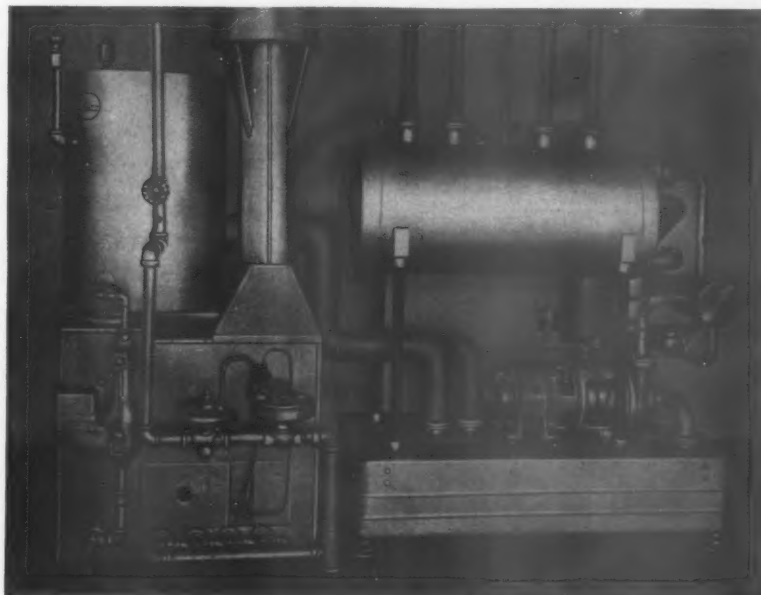
As far as is known there was at that time no active prospect in the city. Since that date there have been 200 installations totalling 2871 HP not including additions that have been made to installations that existed prior to January 1932. Utility employees originated 92 of these 200 jobs totalling 1640 HP. They were called in and aided in the sale of 55 additional jobs totalling 1061 HP that were originated by other interests. In other words, the utility employees were active in the sale of 147 or 73 per cent of the jobs totalling 2701 or 94 per cent of the horsepower. Of course these 147 jobs do not represent all of the work covered by the utility employees.

Considerable time has been spent on promoting ventilating systems that do not come under the classification of air conditioning and some time on additions to old conditioning jobs. The amount of time assigned to ventilating and air conditioning work is as follows:

1932-'33	1 man half time
1934	1 man full time
1935-'36	1 man full time + 1 man half time
1937	2 men full time
1938	1 man full time + 1 man half time
1939	1 man full time

As architects, engineers and dealers have become more familiar with air conditioning the time per job required of the utility employee has decreased. Also the sales effort for air conditioning by these interests has greatly increased so that less time is now required of the utility employee on promoting recognized applications. This gives the utility employee time to try to promote air conditioning for new fields of application as far as the territory is concerned. Undoubtedly the present sales of air conditioning would be higher if the utility employee stuck to promoting sales in recognized fields. However, it is believed that the future sales will be larger by following the present policy.

To illustrate, one small $\frac{1}{2}$ HP air filtering installation at one of the larger industrial plants in Rochester proved so successful that it encouraged them to investigate other possible uses. This concern now has 14 different jobs scattered around



Even where cooling, rather than dehumidification, is the principal job to be done, the gas industry has gas-fired absorption machines such as this recently developed type which is already cooling a diversified group including banks, stores, churches, theatres, clubs, etc.

their plant, 6 of which are complete air conditioning jobs. There are also several more under consideration. The first 3 jobs required time way out of proportion to their size. The more recent ones have required practically no time of the utility engineer as the manufacturer now has an engineer in its maintenance department who is thoroughly capable of handling air conditioning jobs.

Gas Equipment Entering the Picture

The important thing for the gas industry to do is to take the first few steps in securing the air conditioning load. After these steps are taken the value of using gas equipment will be recognized and future sales will be nearly automatic. Considering the manpower available by the equipment manufacturers of gas air conditioning, splendid headway has been made. However they cannot afford to cover local markets the way they have to be covered to secure the load to gas. It is up to local interests to sell gas air conditioning locally.

The gas utility should sell the idea of gas equipment, but not the equipment. As the gas equipment represents only one-third of the cost, the manufacturer will not go into the contracting business to secure the one-third in which he is interested. It is up to a contracting firm to do the actual contracting, as they are set up to do it—the utility is not.

How could a utility keep at peace with all of the gas equipment manufacturers and aid them all, if it were actually selling equipment? It is also of great aid in promoting the idea of using air conditioning to prospective purchasers, if you have no actual equipment to sell. They feel that you have a more unbiased view of their problem.

The gas utilities will have to sell the idea of bidding on gas using equipment to local contractors, and teach them how to engineer jobs using part or all gas equipment. This is a paramount need, for prospective gas equipment dealers have been too busy selling straight electric jobs to study up and learn how to bid on combined jobs. Many of them seem to have entirely missed the value to the users of having independent control of moisture and dry heat. They

design, for example, a theater job for maximum load conditions with sun and afternoon temperature of outside and a full house. This condition may occur only on Sunday afternoons. They ignore the evening condition of full house, no sun load, lower outside temperature, but the same absolute moisture content. The ratio of moisture load to sensible heat load is far greater.

It is true that a lower inside temperature will be needed with the lower outside temperature and with direct expansion the decrease in load and lower inside temperature will increase the ratio of latent heat to sensible. This will tend to overcome some of the difficulties. They can be still further lessened with the use of bypass and reheat. It seems foolish to be adding heat when you want cooling, but to maintain proper moisture conditions under all load-

Tax Increase Shown in Report to Employees

OPERATING taxes of Consolidated Edison Company of New York, Inc., and its System Companies amounted to \$1476 for the average employee during 1939, according to the company's annual report to employees. Ten years ago, in 1929, operating taxes amounted to \$513 for the average employee. In 1939, the report says, operating taxes were 67.66 per cent of the amount paid to all employees as wages, pensions, etc., as compared with only 29.26 per cent in 1929.

More than 42 per cent of the employees of the Consolidated Edison System Companies are over 40 years of age, the average age being 39.9 years for men and 34 years for women. The average length of service of Consolidated employees is 13 years and every seventh employee is a woman.

The average pay of employees on the weekly payroll of the System Companies was \$37.13 during 1939. The total payroll amounted to \$80,289,000, while the salaries of all officers of all the System Companies amounted to one-half of one per cent of the total revenues.

A feature of the employee report, which is entitled "Our Company and Our Business—1939," is the break-up of the average dollar of revenue received by the Consolidated Edison System Companies in 1939. This shows the largest share going to labor, 27.6 cents, with the second largest share going to tax collectors, 21.7 cents. Coal, supplies, etc., took 18.5 cents, and depreciation

ings this must be done. To take the moisture out, you have to keep the load up. The dealers must be taught how simply gas-using dehumidifying equipment overcomes such difficulties and to appreciate the value of combined jobs. The dealers must learn where gas equipment fits into the local picture. This can only be done by the local gas utility showing the dealer how gas equipment fits specific jobs.

For the gas utilities to carry out this work they must have engineers trained in air conditioning who are assigned to promote it. It takes manpower to promote and sell air conditioning. At the present time the gas utilities are exerting much less manpower to sell air conditioning than the electric. If they wish to secure their proper share of the air conditioning business they must put manpower back of their sales effort.

10 cents. Interest on borrowed money amounted to 7.7 cents, leaving 4.3 cents for dividends on preferred stock, 9.2 cents for dividends on common stock and 1 cent for surplus.

There are many illustrations in the report. One chart shows that in 1939 for every dollar the Consolidated Edison System Companies paid in dividends, \$1.61 went for taxes, and \$2.05 for operating wages to employees.

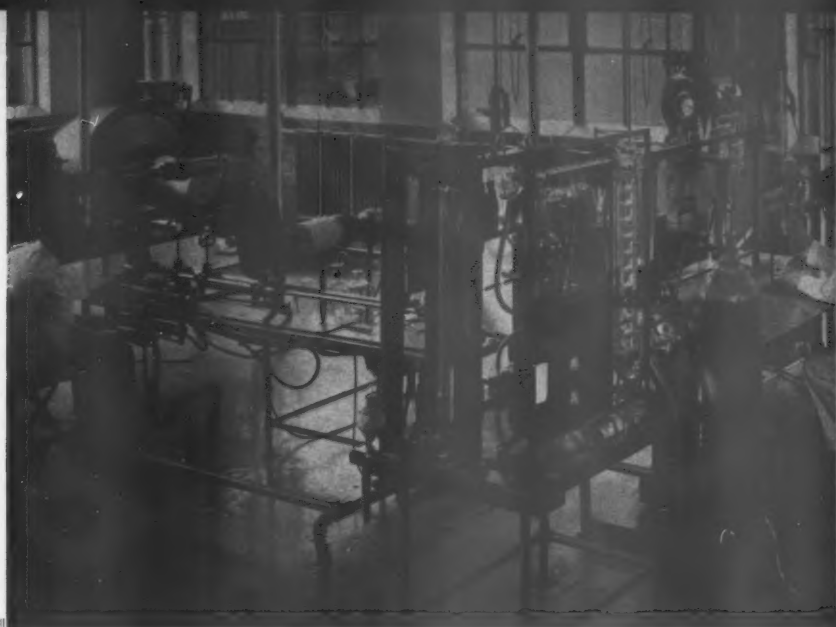
In conclusion the report says: "An annual report such as this simply represents what management and employees together have accomplished with the money of investors. In evaluating the year 1939 we find: More service sold to customers, high standards of pay and working conditions maintained for employees, and regular payments made to investors."

Costs of Living

ACCUMULATIVE effect of reductions in rates is illustrated by the fact that in San Francisco the cost of electric service for residential consumption has declined 49% since 1914, and that of gas service about 42%, while general living costs are 41% above the 1914 average, it is stated in the annual report of the Pacific Gas and Electric Company 1939.

Sales of gas in 1939 aggregated 69,994,787,400 cubic feet, substantially the largest volume in the company's history, exceeding the 1938 total by almost seven and one-half billion cubic feet and amounting to three times the quantity of gas sold in 1930.

Specialized temperature measurement and gas analysis equipment employed in research in industrial gas combustion at the A.G.A. Testing Laboratories in Cleveland



Forging the Future . . . Anticipating the Industry's Needs with Research

By R. M. CONNER

*Director, American Gas Association
Testing Laboratories*

THE gas industry as a whole is probably doing more research at the present time than ever before in its history and seems to be heading toward even greater efforts. Fortunately, men who actively sponsor research or who are directly responsible for the industry's future are to a very large extent men of vision who see the need for increasing our activities along those lines. They are fully aware of current and future research needs in their respective fields. However, if research men are to accomplish all that must be done, and if our industry is to progress in a manner satisfactory to all, encouragement and active support of research by the entire industry is essential.

Those industries which have profited by research have understood its true nature and the fundamental proposition that research must be integrated with business. Records of these industries indicate that the greater the understanding of research, the greater the demands made on it, and the greater the benefits derived from it. The purpose of this paper is to contribute, if possible, to a better understanding of the part research has played in the past

success of our industry and its potentialities for future progress.

The gas industry must still wait fifteen years before it can celebrate the centenary of Bunsen's great discovery in 1855 of the principle of burning gas by premixing air with it before combustion. Less than forty years ago gas and light were synonymous and the great future of gas as a source of heat and power for innumerable domestic, commercial and industrial purposes was probably not envisioned by more than a dozen men.

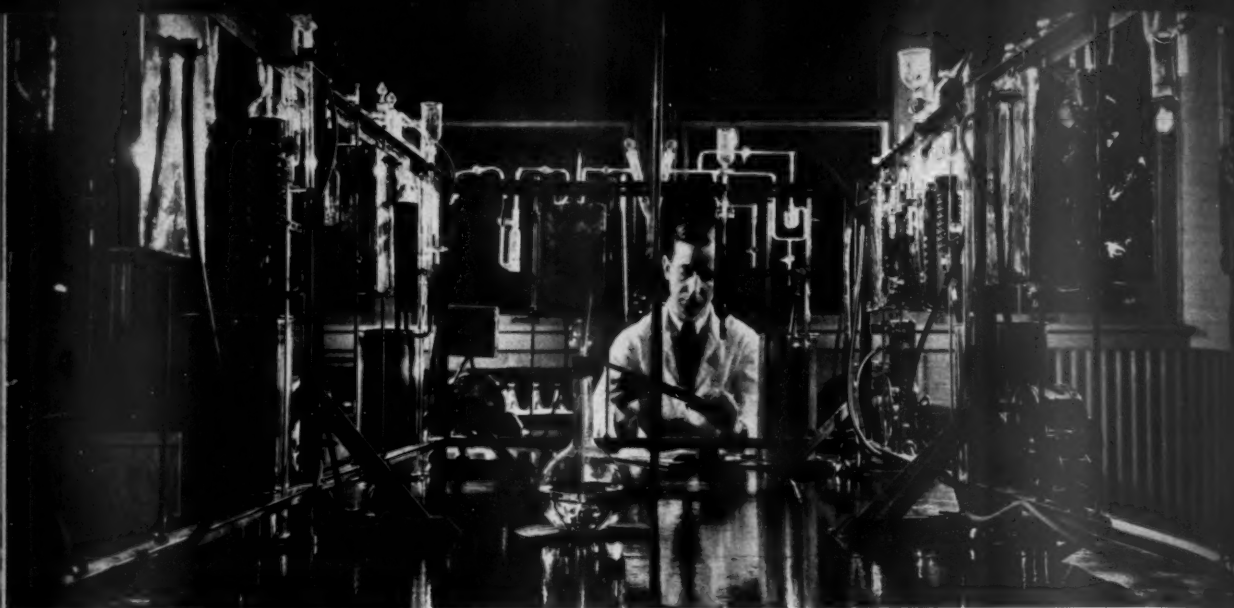
Gas as a widely used industrial fuel is not much more than twenty years old except for the crude heating processes, while gas as a chemical is practically a child of the last general business depression. Expansion of gas in these, its modern functions, has closely paralleled the flowering of the industrial era of civilization. Gas is as old and no older than the industrial era, although its roots go much further back

and have with the science of chemistry a common classical antiquity.

It is significant, however, that gas and the industrial era have marched forward, hand in hand. Occasionally the thought is advanced that gas is somehow mysteriously old and that its present status is derived from momentum gained in the long distant past and which is now dissipating. Such is certainly not the case. The gas industry has arrived because it battled down the stretch against competitive fuels matching development for development and application for application.

It is worth repeating that gas as a great industrial fuel emerged along with other revolutionary achievements during the first World War in spite of electricity, coal and oil being fairly lusty infants at the same time. A survey of the countless ingenious ways gas has been engineered into the intricate pattern of modern work and life might seem incompatible with the fact that only eighty-five years ago it was first learned to mix air with gas prior to combustion.

This discovery preceded by only a few years the genius of Maxwell who wrote down mathematically the elec-



Apparatus for chemical analysis in combustion research

trical theory underlying modern radio. Many marvel at the miracle of radio, yet see nothing romantic in gas. It is easily forgotten that at the turn of the century lighting was the heart, soul and backbone of the gas business. The transition to use of gas for heat and power has been so relatively recent that many gas companies retain "light" as a part of their corporate title.

Gas Progress and Research

This leads to an interesting point. Although practically everyone will agree that the chemical, electrical, and petroleum industries have reached their present status through aggressive research they seem unwilling to concede that the progress of gas has had any relation to research. If progress and research are inseparable (as rather high-pressured publicity has apparently proven to the public mind in the case, for instance, of radio and automobiles) the gas industry can stand on its record as being one of that same famous group that has fostered research. Men of our own industry should become mentally conditioned to the fact that the gas business has been doing research of the most effective type right along. If many are not familiar with the scope and ramifications of the industry's research, it is probably due to the lack of proper publicity.

If the background of research in the gas industry is examined closely, its scope and richness will be a surprise to

many. For example, it will be interesting to recall that period extending from 1780 to the beginning of the modern era, a period mellowed by age and noted for accomplishment, a period including more than a century of classical research which was to find its culmination in the bending of science to civilization's needs. In this period, discoveries or new data were forthcoming on such subjects as the kinetic theory of gases, dissociation, flame temperatures, and speed of flame propagation, relative combustibility of various constituents of a gaseous fuel, cause and effect of flame luminosity, mechanics of hydrocarbon combustion, and others too numerous to mention.

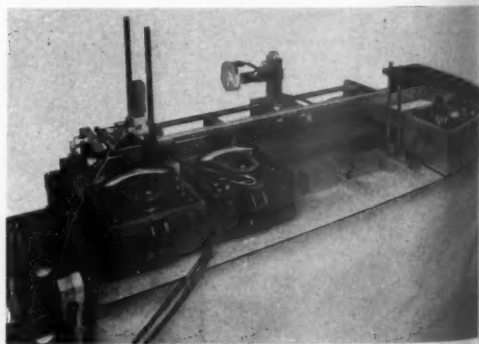
It is surprising how frequently these basic laws or relationships have been rediscovered and probably will be discovered again in the future. A classic example is that of Dalton's work on the mechanics of combustion of the hydrocarbon, ethylene, included in his "New System of Chemical Philosophy" which was published in 1809. This great discovery, apparently entirely overlooked by Dalton's contemporaries, was rediscovered in 1891 at Owens College, Manchester, England.

These past achievements are not mentioned to minimize in any way what is now being done or must be done, but only to bring out that the heritage of the industry in research is rich. The value of this heritage as a guide and foundation as well as an incentive should not be minimized.

Bridging the Gap

It may be asked what has research to do now if all of the fundamentals have been well established. The answer is this: research will fill out the framework of our knowledge and will bridge that gap, often seemingly uncrossable, between a basic law and practical applications of use to mankind. This is applied research. In addition, research may develop new principles and fundamentals which might conceivably en-

Calibration apparatus for thermopile used in research in radiant energy



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ISSUE

large the scope of gas, as a utility business, or provide a basis for more profitably conducting that business for better public service.

What are the industry's research needs today? At best this problem in its enormous complexity can only be answered categorically. The gas industry now has 17,500,000 meters of which over 16,500,000 are residential meters and the total number of people served may be estimated as 68,000,000. This represents about as close to urban saturation as can reasonably be expected, and most rural dwellings are beyond economic approach except for bottled gas or small central plants.

Meter Expansion Unlikely

No large numerical expansion in domestic meters other than natural growth concurrent with population increase seems to be possible with or without research. Most of these domestic meters represent a gas range load, a good percentage a water heating and space heating load, and relatively few a refrigerating or central heating load. Here are fields in which the industry is well established and in which research is needed to retain or to expand our services.

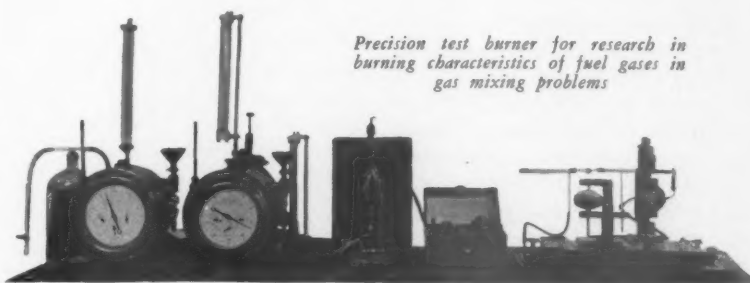
Even with this simple concept of research as an aid in developing existing markets, numerous ramifications become evident which research plus good management only can solve. For example, expansion in house heating can be carried to a certain point beyond which a further increase may not be economically justified. In such instances summer air conditioning, water heating, miscellaneous appliances or new domestic, commercial or industrial uses must be developed concurrently to provide a broader base which will warrant the high peaks typical of space and central heating. It may be in many situations that the send-out is considered satisfactory and here the problem would be one of first improving utilization appliances to keep them apace or ahead of competitive equipment so that the load may be maintained; and also of improving production, distribution, and by-product techniques so that profits may be kept apace at least with taxes and other rising expenses.

The industrial and commercial fields seem to offer more scope for expansion, at least on a percentage basis than the domestic field. In this case, too, the greatest opportunities probably will be found in producing the fuel at lower cost and in vigorously extending those processes and fields with which we are familiar or in which we have some background of fundamental knowledge.

The foregoing thoughts point to the fact that the gas industry now has a tremendous investment which it desires to preserve, maintain, and extend at least consistent with the growth of the country. It seems elementary to say that the major portion of the industry's research money should directly back its present business, since any money spent for research can be said to have been spent to preserve or expand the industry's business. But it should be

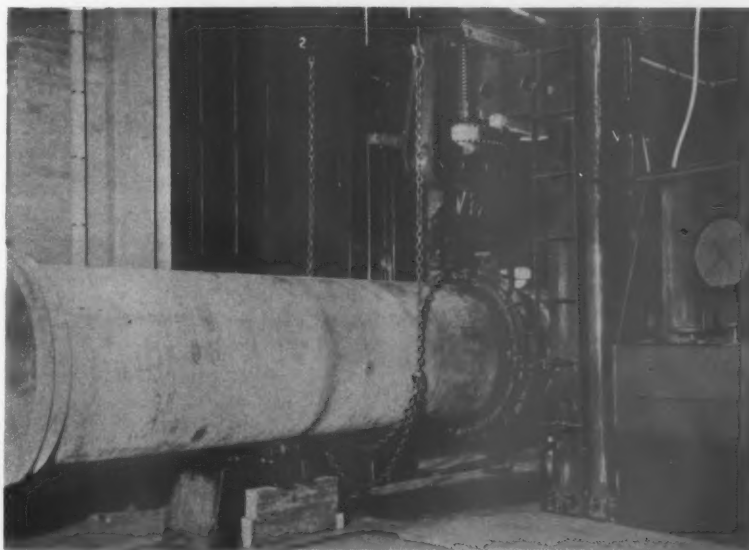
the duty of every executive responsible for the expenditure of research money to determine as far as humanly possible that the bulk of it has a reasonable certainty of producing tangible results which can be applied at once or in the reasonably near future to the advantage of the business.

Some portion of research money might well be spent on what is termed fundamental research provided it will serve to develop further the laws of nature on which subsequent practical application may be made. If the gas industry were a decadent one which to survive had to make a revolutionary change in product or process, it would be entirely reasonable to expend all or the greatest proportion of available resources in seeking and developing this new product. But our industry is indeed very much alive with 17,500,000 consumers, and annual gross re-



Precision test burner for research in burning characteristics of fuel gases in gas mixing problems

Below—Equipment for lateral deflection tests used in pipe joint research



ceipts of about \$800,000,000. After a decade of depression and of competition organized to the highest crest in history the industry enters the forties of this century with nearly 2,000,000 more meters than it carried into the thirties. If a profit commensurate with these increased potentialities is not being made, it is not the fault of research but rather of perhaps not enough research.

Granting that all research funds are confined to what might be termed current industry problems, the possible outlets are still nearly innumerable and their variety great. The production man has his problems, the utilization man is vexed by others, another department has its own private headaches, while the variety and nature of problems in any particular branch of the industry will vary from one section of the country to another.

Executive Supervision Vital

Management in one way or another bears the brunt of all of them and is accordingly familiar with them at least in a general way. This leads to a basic fundamental in our research picture. Direction of research in a broad sense should be under the supervision of our highest executives who by reason of their position, training, knowledge, and wide viewpoint can weigh all aspects of various research problems and evaluate their relative importance particularly in relation to economics. Active supervision should, of course, be vested in responsible operating and technical men who are familiar with details.

These are not suggestions or theory but a brief outline of the general way in which research has been successfully prosecuted by the industry, both on individual company projects and on cooperative association undertakings. This procedure is the best assurance of getting the most out of a research dollar both in respect to the quantity and quality of work done and more important in respect to the applicability and value of the results in solving a problem.

Timeliness is one of the most important considerations. Under capable direction the need for various projects in preference to others becomes ap-

parent on grounds of economic and technical merit. Those selected as the most important are the ones to do first.

Who should do our research? Everyone will do research who is interested in solving problems that constitute a barrier to progress. Everyone will do research who is interested in building a better product or providing a better service. Scientific and technical men outside of the industry will continue to do research on gas for its academic interest and significance. All available resources should and will, it is hoped, be used. Universities, industrial research laboratories, and governmental bureaus have done and will probably continue to do research independently or under the sponsorship of the gas industry or one of its components.

The industry in itself has considerable active and potential research talent; some of which has been used to fullest advantage and the rest sparingly or not at all. Some problems by their very nature must be undertaken and solved by individual companies or elements of the industry such as the state or regional gas associations. Others seem to be logically projects which can be financed and sponsored by the industry at large since the benefits apply universally or to large elements of the industry.

Personnel No Problem

The national organization of our great industry, the American Gas Association, has sponsored and financed considerable research of general industry interest, some of this being carried on at its own Testing Laboratories, some at university research laboratories, and some at individual utility or manufacturers' laboratories. The question of where research should be done or who should do it is not really a problem. If it is, no hard and fast rules should be adopted since flexibility in scope and spirit are essentials of true research.

The place and personnel for research should be selected when required on the basis of adaptability, talent and facilities. If the prime requisite previously mentioned that research be carried out under responsible supervision is adhered to, questions of place and personnel become items

of detail along with other equally important aspects of the research problem.

Another important need today in respect to gas industry research is to publicize and popularize more fully the really excellent and comprehensive projects which have been completed or are currently in progress. This will serve first to create a more aggressive interest in this subject and interest will lead to encouragement, concrete support and a better understanding of research. Just as important, adequate publicity would aid greatly in bringing about a wider dissemination of research findings, and it should be remembered that the value of research results regardless of their intrinsic worth is directly proportional to the use made of them.

U. G. I Reports Gains in Revenue

THE combined earnings statement of The United Gas Improvement Company and its subsidiaries, reported in the company's fifty-eighth annual report, amounted to earnings of \$1.07 per share for its common stock for 1939, which compares with 99¢ for 1938. It shows that operating revenues of utility subsidiaries amounted to \$112,401,349, an increase of \$4,960,406, or 4.6%.

The report discusses the operation of The Philadelphia Gas Works Co. which had operating revenues of \$15,093,648, an increase of \$178,902, or 1.2%, compared with 1938. Operating expenses increased \$233,501, due principally to an increase in the purchase price of coke-oven gas for the last five months of 1939, from 23.62¢ to 31¢ per thousand cubic feet, in accordance with an Ordinance of City Council approved December 28, 1939. The new lease between the City and The Philadelphia Gas Works Company guaranteed by U.G.I., became effective August 1, 1939.

The report states that the indications are that 1940 will witness the largest capital expenditures on the part of the utilities since 1931. In the U.G.I. system, capital expenditures projected for 1940 total over \$20,000,000, which compares with \$11,300,000 for that purpose in 1939.

The report further points out that the plant of its subsidiary, Ugitte Sales Corporation, to test the commercial possibilities of the processes developed by the U.G.I. Research Department for the refining of water gas tars and their light oil constituents, was completed and put into operation March 11, 1940. While it is too early to predict the results of its operations the plant has developed in accordance with the company's expectations.

Tepees to Towers . . . Oklahoma Gas Company Accepts a Civic Challenge



J. H. Warden

DURING recent years a very definite feeling has grown among civic leaders that Oklahoma as a state had reached a cross-road. A state, like individuals, must either go forward or slip backward—there is no static position. The question to be faced was: Could Oklahoma continue to go forward and grow as it had in the past fifty years, depending upon its agricultural, mineral and oil resources, or would it have to look to other means for its future growth and development. It was generally felt, however, that it was not only Oklahoma's natural resources that had made it possible to go from "Tepees to Towers" in the short span of half a century—many countries have more natural wealth and opportunities and have remained stagnant for centuries—but Oklahoma's remarkable development could also be attributed to the energy, resourcefulness and enthusiasm of her people.

Essay Contest Promoted

What could be done to arouse these same people to a realization of present conditions and to get them to thinking of the future? What part could the Oklahoma Natural Gas Company play in furthering such an interest? As the solution to the problems facing our state could come only through the enthusiastic cooperation of all her people and since, as a company, we could do little toward getting a message to everyone, we sought a medium through which the story could be told. The logical medium was through the newspapers.

And so it was, in an effort to obtain

- Herewith is the first of a series of articles to be published in the **MONTHLY** describing the experiences of utility companies who have taken an active part in community development activities. It is sponsored by the newly formed Committee on Community Development of the Commercial Section under the chairmanship of H. C. Thuerk, general manager of sales, The Utility Management Corp., New York, N. Y.
- It is hoped, through these articles and by other means, to encourage gas companies to take a more active part in community civic affairs. Organization of the committee and its program was outlined in an article in the April issue of the **MONTHLY**, starting on page 133.

By J. H. WARDEN

General Sales Manager, Oklahoma Natural Gas Co., Tulsa, Okla.

a united front from the opinion-forming news writers, that the Oklahoma Natural last spring announced a contest open to all editors or other regular employees of a newspaper in the state. To reach all of the newspaper fraternity and to have a closer tie between them, we sponsored the contest through the Oklahoma Press Association, offering two prizes of \$250 and \$100 for the best essays on the subject of "Where Ahead Lies Oklahoma's Greatest Opportunity and How Can We Attain It." The five judges selected to choose the winning essays were:

- Harvey Everest, Mid-Continent News Company, Oklahoma City, acting for Judge Samuel W. Hayes.
- N. R. Graham, president of the State Chamber of Commerce and the Tulsa Clearing House Association.
- W. E. Hightower, president of the First National Bank of Oklahoma City.
- E. W. Smartt, Muskogee, chairman of the State Board of Affairs, and former secretary of the Oklahoma Retail Merchants Association.

E. W. Thornton, Landes, Seever & Thornton, and president of the Tulsa Chamber of Commerce.

To create more interest in the contest and thus to be assured that more people were thinking seriously about the progress which could be made in the near future, we used various means of reminding the newspaper workers of the contest. Pamphlets were made up and distributed to all newspapers and various civic organizations, giving a brief resumé of the natural resources of our state and the rules of the contest. Each month during the summer and fall the Oklahoma Natural Gas Company placed an ad in the publication of the Oklahoma Press Association calling attention to the fact that the contest was still open. In addition, direct mailing pieces were sent to individuals connected with the newspapers in an effort to personalize our desire for as many entries as possible.

Attention Focused on Oklahoma

The contest made it possible to bring strikingly to the attention of newspaper men Oklahoma's opportunities and resources, and to urge them to conscientiously study their possibilities. The response to the contest was very gratifying—117 entrants from a total of some 300 daily and weekly newspapers in the state, or one entry from every third paper. The many original ideas and practical suggestions contained in the papers are a distinct indication of the time and thought that had been devoted to their preparation.

The prize winners were announced at the February meeting of the Oklahoma Press Association. First prize went to Robert Kniseley, news editor, Chandler News-Publicist, Chandler, Oklahoma, and the second to Everett L. Purcell, editor, Enid Events, Enid, Oklahoma. It was interesting to note that the prize winning essays came

from men who are not connected with newspapers in our metropolitan centers, indicating the constructive study that is being given to the future growth of Oklahoma by the people in our agricultural districts and smaller towns.

Immediately upon the announcement of the prize winning essays we had requests from most of the newspapers over the state for copies of them to be run in their next issues. We were glad to send copies to all who requested them and were well pleased to find so much publicity being given to developing our communities. We had pamphlets printed giving the prize winning essays in full, condensations of the ten honorable mention papers, and excerpts from the other entries. These pamphlets were distributed to all newspapers of the state and to all of the chambers of commerce.

We have had numerous requests from civic clubs for copies of the booklets to be given out to members at

luncheon meetings or to lecture groups. We have also had several requests from over the country for copies to be used by university classes in journalism and economics. All of this furthers our principal aim of getting the story of the opportunities and possibilities of Oklahoma before as many people as possible.

Acquaintanceship through sponsoring the contest brought requests for a speaker at various meetings of local press organizations over the state, giving further opportunities to impress on such gatherings interesting information on Oklahoma. As the result of all these mediums we feel that very definite strides have been made in advancing the interest of the newspapers in building up Oklahoma. This interest will be reflected in the information which they pass on to their readers.

An interesting side-light on the effect of the contest was learned through one editor of a small town newspaper who told us at the end of the contest

that he had fully intended to write an essay, but after studying the possibilities for development in his community, he became so interested in helping to organize and promote a cooperative creamery for the farmers in the surrounding area that he had no time left in which to write his treatise.

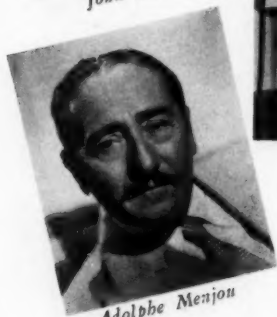
We have recently learned that some of the newspapers throughout the state have started contests fashioned after the statewide one which we sponsored, offering prizes for essays from their readers regarding the possibilities in the local communities.

From a company standpoint, we believe this contest was a most worthwhile investment. A large number of the newspapers commented favorably upon the activity. The thinking which it has provoked will no doubt help establish additional industries which will use an increasingly large amount of our service and it has established the company as a definite force in the future development of Oklahoma.

Another Gorgeous Hollywood Kitchen.... 100% Gas-Equipped, Of Course!



John Hubbard



Adolphe Menjou



Carole Landis

"Turnabout," a Hal Roach-United Artists comedy, featuring Carole Landis, Adolphe Menjou and John Hubbard, has plenty of action in a gorgeous all-gas kitchen. National release date is May 17-June 1. Write to A. G. A. for promotion bulletins suggesting how to tie-in and capitalize on the fact that when Hollywood builds the latest thing in kitchens it chooses modern gas appliances exclusively.

Columbia Gas Reports Large Increases

INDUSTRIAL activity during each month of 1939 was greater than in the corresponding month of 1938, according to the annual report of Columbia Gas & Electric Corporation. As a result of this increase in activity, the report stated, gross revenues of the corporation from all sources were 7.5% greater than in 1938. The greater portion of this increase resulted from larger sales of gas.

Facts brought out in the report showed that for the year 1939, total gas sales exceeded those of 1938 by 11.1%. Sales of gas for industrial uses were larger than in any previous year except 1937 and exceeded those of 1938 by 22.5%. Residential gas sales were 4.2% larger than in 1938. For the year, the average consumption per residential customer was 59.0 MCF as compared with 57.7 MCF in 1938. The average annual revenue per residential customer for 1939 was \$34.23, an increase of approximately 44 cents over that for 1938.

Gas gross revenues were 8.2% greater than those in 1938. The smaller percentage of increase in revenues than in volume of sales is attributable to the fact that the greatest increases in sales occurred in the industrial classifications where rates are lower than those for other classes of service. There were no material changes in gas rates from those in effect in 1938.

Reports to Employees Analyzed in Study

IN the past two years there has been a rapid growth in the number of companies issuing special annual reports to employees as a means of giving them a better understanding of company problems. Like the stockholder's dividends, the security of the employee's job depends upon a company's earnings. The employee thus has a direct interest in the results of a company's operations. This at least is the conclusion of 116 companies whose practices in issuing annual reports to employees are described in a new report, "The Annual Report to Employees," prepared by the Policyholders Service Bureau of the Metropolitan Life Insurance Company.

The report shows the varied and ingenious ways that financial statements are being presented and interpreted in these employee reports so as to make them understandable to those unversed in accounting terms. The study describes and illustrates the different methods of presentation employed, the media through which the report is transmitted, subject matter, physical make-up and related topics. The objectives of this type of activity and the results that may be expected by management are also discussed.

In the report particular attention is given to the trends and changes that have taken place in these employee reports—the new and improved practices that have been de-

veloped—by making comparisons between the most recent editions of such reports with those issued in prior years. Free use is made of illustrations and excerpts from typical reports are included. An appendix lists the names of companies that have provided such reports for employees.

Copies of "The Annual Report to Employees" are available from the Policyholders Service Bureau, Metropolitan Life Insurance Company, One Madison Avenue, New York.

Big Send-Out

THE Consolidated Edison Company of New York, Inc. in "News & Views for Stockholders" March 15, 1940, states that gas out-put for the first eight weeks of this year was 8,076,000,000 cubic feet as compared with 7,576,000,000 in 1939, an increase of 6.6%.

A conversion gas burner which replaced a coal-fired boiler in Nedick's Stores building, Manhattan, will take additional gas estimated at 2,420,000 cubic feet annually.

Gas Hits New Peak in New Orleans

TWO thousand eight hundred eighty-eight new customers were added in New Orleans, La., during the year, according to the annual report of New Orleans Public Service, Inc. A new peak in combined dealer and company gas appliance sales was attained with a volume of over \$1,100,000, which is 7% higher than that of any previous year.

Particularly significant from the standpoint of new business, the report added, were the gains in sales of automatic insulated oven gas ranges and automatic gas water heaters. Dollar volume increases over the previous year were 33% for ranges, 74% for automatic storage water heaters, and 31% for automatic coil water heaters.

In spite of the unusually mild weather in the early months of 1939, and although the quantity of gas consumed per customer increased only slightly, operating revenues were \$4,597,633, an increase of \$238,506 or 5%.

Southern California Gas Companies Step Up 1940 Expenditures



F. S. Wade

Counties Gas Company have set up the largest budgets since 1930, it was announced April 16 by F. S. Wade, president of the two companies. A total of \$7,750,000 will be required during this year for gas main extensions, service piping, new meters, transmission pipeline extensions and reinforcements, new buildings, automotive equipment and the like, according to estimates made by the engineering staffs of the two companies, he stated.

In explanation of this, Mr. Wade said: "Abnormally warm weather during the winter months, together with a cut in gas rates ordered by the California Railroad Commission last year, have caused a substantial reduction in returns from the gas business in Southern California. Nevertheless, growth of this area, which seems likely to continue at an accelerated pace throughout 1940, has forced the two gas companies to increase their capital budgets.

DESPITE a drop in revenues from the sale of gas of more than \$2,400,000 for the months of November and December, 1939, and January and February, 1940, as compared with the same four months of last winter, Southern California Gas Company and Southern

"In drawing up our annual budget for 1940 we estimate that we may expect a probable increase of 42,500 customers during the year," he declared. "This will require an expenditure of at least \$3,375,000 for gas main and service piping, new meters and regulators, and for the labor of installing the service connections. Our engineers estimate that fully 200 miles of pipe will be used in extending our gas mains for new construction. The cost of this, together with the cost of installing it, alone will exceed \$1,000,000.

"At the same time, the two companies have outlined an extensive program of building construction and modernization, and of additions and reinforcements to their natural gas transmission and distribution systems."

Southern California Gas Company and Southern Counties Gas Company today are connected with 49 separate sources of natural gas supply, according to annual reports of the organizations. These sources include fields in the Los Angeles basin area, the Ventura-Santa Barbara region, and the great oil and gas producing fields of the western San Joaquin Valley. Nearly 13,500 lineal miles of pipeline has been laid to interconnect these sources of supply and bring the natural gas to users in 248 communities served by the two companies.

At the beginning of 1940 the number of separate homes, business establishments and industries served by the two companies and affiliates totalled 920,617 or a population of 3,500,000.



George Rector, noted culinary expert, shows how it's done at a cooking school in Pittsburgh. His assistants are Harriet Rodenbaugh, home economist, Equitable Gas Co., and Marjory Evans, home service lecturer of Joseph Horne Co., department store where the school was conducted

Gas International Cooking Schools Attract Large Crowds

MANY hundreds of housewives and homemakers in Brooklyn, N. Y., Baltimore, Md., and Pittsburgh, Pa., have attended Gas International Cooking Schools featuring the personal appearance of the famous George Rector, nationally known restaurateur and food authority. These schools were held at Abraham and Straus, Hutzler Bros., and Joseph Horne Co., department stores in those cities.

The program was arranged through the Associated Merchandising Corp. of New York City and the Commercial Section of the American Gas Association. It calls for a series of five schools for two-day periods in department stores affiliated with the Associated Merchandising Corp. in cities throughout the country.

In addition to the famous recipes personally prepared by Mr. Rector and cooked by gas, the program was so devised as to allow the Home Service Departments of the local gas utility companies, who assisted him in all cases, to participate in the program by preparing their own particular recipes or by talks on Home Service.

The schools were featured in each city by considerable advertising by the department stores, radio broadcasts, and special news items and editorials in the press, and in each instance the department stores included on their restaurant menus the recipes prepared by Mr. Rector. Mr. Rector's cookbook "At Home at the Range" was available and a large number of copies purchased by those attending the schools.

Schools are scheduled to be held at The Boston Store in Milwaukee, May 1 and 2, and Bullocks in Los Angeles on May 28 and 29, sponsored by the Milwaukee Gas Light Company and the Southern California Gas Company respectively.

Natural Gas Found Hormone Source

THE United States Department of Agriculture has found in natural gas, coal, acetylene, limestone and water the raw materials for making man's hormones, it was announced in Cincinnati April 11 at the annual meeting of the American Chemical Society.

The discovery promises a cheap source of a class of remedies, vital to life and health, which at present are among the scarcest and most expensive on the druggist's shelves. It was reported by Lewis W. Butz, Adam M. Gaddis, Eleanore W. J. Butz and Russell E. Davis, of the Department of Agriculture.

They discovered how to make a new steroid. Steroids are the chemicals which nature uses in living tissues to make hormones. The new steroid is the first one made chemically which closely resembles the scarce natural substances.

It appears to be suited particularly to synthetic manufacture of the male hormone testosterone, the female hormone progesterone and hormones which come from the adrenal glands and supply the body with sudden bursts of energy.

One chemical from which this mother-stuff of hormones can be made is already in mass production in ton lots for industry. It is the combination of acetylene and natural gas or ethylene which makes artificial rubber and brilliant colored plastic.

A feature of the new synthetic process is that it can produce chemicals related to cancer-causing substances, for use by those who are studying this phase of a worldwide search for cancer's cause.

Girl Guides Learn To Cook with Most Flexible Fuel



Girl Guides undergoing examination for Cook's Badge in the Home Service Department of the Consumer's Gas Company, Toronto. Director of Home Service, Miss Sadie Kilgour, reports 240 candidates for the badge, of whom 210 were successful

Moving Trek Brings Utility Problems

NEARLY 57,000 home, apartment, office, store and factory occupants will take part in Greater Montreal's annual May moving trek it was estimated today by Montreal Light Heat & Power Consolidated. This figure, based on an annual canvass of gas and electricity users, indicates there will be little if any increase over last year when 57,124 of the utility's customers exchanged premises.

Special methods coupled with long experience enables the company to handle the enormous volume of work required to insure that gas and electricity will be promptly available at new addresses. A sharp speed-

up of office and field work is called for since more than a fifth of a total of 270,000 service users move in the first few days of May.

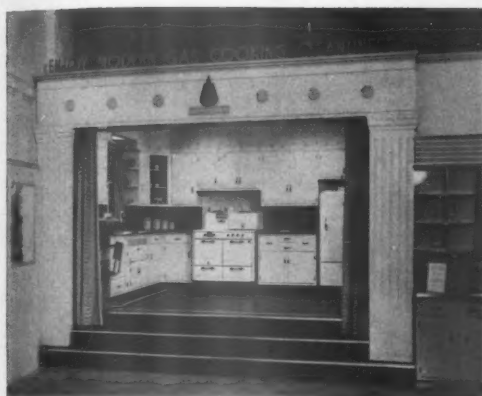
At this time an additional 57,000 electric and 40,000 gas meter readings are necessary while a great number of new electric service wires, gas service pipes and meter installations must be made. Office staffs too must note almost 225,000 record changes and issue upwards of 57,000 extra bills to cover the broken period. Meters are not usually removed from vacant premises but in some instances may be disconnected: in new buildings they may not have been installed prior to occupancy and so in every case early notification assists the company in providing prompt service.

Edward G. Kent Dies

EDWARD GRUET KENT, of Madison, N. J., who retired September 1 as an executive of the Public Service Electric and Gas Co., Newark, after 41 years' service, died on March 24. Mr. Kent was well known for his extensive interest in archaeology and ornithology.

A graduate of Princeton University in 1897, Mr. Kent after leaving college joined the East Orange Electric Co. which later merged with the Public Service Company. He served in a number of capacities with Public Service and as manager of the Summit, N. J., office before going to the Newark office two years ago. He had been a member of the American Gas Association since 1919.

Modernized Home Service Makes Its Bow



Photographs of a modernized home service auditorium show what can be done to place gas appliances in attractive natural settings

THE Citizens Gas and Coke Utility's newly decorated Home Service Auditorium, with three model kitchens and a special stage for demonstration purposes, was opened late in March to the general public in Indianapolis.

It has been designed with the idea of being a source of reference for Indianapolis home-makers seeking suggestions on kitchen planning and color schemes; as a meeting place for local women's organizations and as a spot where the general public and special groups can gather for modern cooking demonstrations under the expert direction of Marian Schleicher, the utility's home service director.

The elevated stage, a model kitchen in itself, is the center of attraction and from it Miss Schleicher conducts her various cooking lectures. The exterior of the cabinets is a lemon shade while the interior is green. The gay-striped curtains match the salmon pink ceiling and the black marbled inlaid linoleum on the floor blends with the work tops of the cabinets.

At right are set-in pictures of tasty meals in appetizing natural colors which decorate one wall of the auditorium



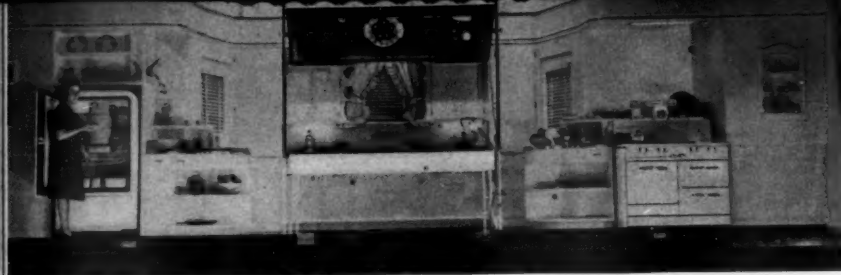
Just off the stage and along one side of the auditorium wall are two other model kitchens. Both are complete with water and gas connections. The one nearest the stage is a "startling" delicate pink with the inside of the cabinets in dark red. The third kitchen is designed to fit into a Colonial home, with cabinets done in natural maple and the curtains in blue and red.

Along the opposite wall is a row of large photographs of tasty foods. Each picture is set back in a well-lighted, recessed panel and is resplendent in appetizing natural colors. Recipes for each of the dishes are available beneath each photograph.

Regular Tuesday afternoon cooking demonstrations in the new auditorium have been gaining in popularity. Frequently

there is standing room only. But besides this regular general public demonstration, special classes are held at night for business girls and on Saturday mornings for Girl Scouts and Campfire Girls. All other afternoon and night dates that are open are usually taken by special women's clubs who use the auditorium for card parties.

A fourth model kitchen, which fits into the modernized home service program, is located on the utility's sales floor and here the home service girls are continually turning out foods for interested women who have come in to pay their gas bills or to look at new appliances. Near the kitchen is a special display rack on which special dishes are kept at all times.



barring new all-gas kitchen set which from now on will be a colorful feature of the cooking booths conducted by the Los Angeles Times under the direction of Marian Manners, popular home economist. This set was designed by the Home Planning Bureau of Southern California Gas Company especially for the Times, and was presented to the paper by the Natural Gas Bureau under the sponsorship of Southern California Gas Company and Southern Counties Gas Company. The dominant color is sunny yellow which is accented by colored pottery set in niches in the walls

Advertising Convention to Meet in Chicago

THE annual convention of the Public Utilities Advertising Association will be held in Chicago June 23 to June 26 with the Palmer House as headquarters, according to an announcement by Keith Hartzell, of Bristol, Tenn., president of the association. The convention will be held in conjunction with the annual meeting of the Advertising Federation of America, scheduled for the same dates.

Mr. Hartzell also announced appointment of the committee on arrangements for the convention, with Clayton G. Cassidy, The Peoples Gas Light and Coke Company, Chicago, as chairman, and Charles W. Tennant, Western United Gas and Electric Company, Aurora, Illinois, as vice-chairman.

A feature of the utility meeting will be an exhibit of advertisements winning awards in the association's nationwide Better Copy Contest. J. W. Hicks, of the Public Utility Engineering and Service Corporation, Chicago, is chairman of the committee in charge of the exhibit.

Indianapolis Utility Registers Gains

FIRST quarter operation of the Citizens Gas and Coke Utility, Indianapolis, Ind., showed substantial increases in gas sales, coke sales and number of meters in service, according to figures released by officials of the Utility.

Total gas sales for the first quarter of 1940 shows an increase of over 202 million cubic feet, reaching a volume of 1,178,987,000 cubic feet in three months. Domestic gas consumption showed a substantial increase of 55 million cubic feet over the first quarter of 1939, reaching a volume of 615 million cubic feet so far in 1940.

Record industrial consumption of gas continued in 1940, reaching 273 million cubic feet; the first three months topped 1939 first quarter consumption by 53 million cubic feet. Commercial gas consumption showed an increase of 7 million cubic feet and house heating consumption gained 87 million cubic feet in this same period.

Foundry coke sales reached a total of 38,400 tons in the first quarter of 1940, an increase of 9,900 tons over the same period of 1939. Total coke sales were 123,700 tons in the first three months of this year, an increase of 35,200 tons over the first quarter of last year.

Number of gas meters in service reached another all-time, record high of 89,138 on March 31, 1940. A comparison with March 31, 1939, discloses an increase of 3,384 gas meters in service.

New Advertising Plans To Be Approved



T. J. Strickler

June, 1941, will be approved. First announcement of these plans will be made by Major Strickler at the Association's Executive Conference in Chicago, May 23.

For some weeks members of the copy committee have been working with the agency, McCann-Erickson, Inc., New York, in developing copy, layouts and sales promotion material for the new advertising year. The Advertising Committee of the Association's Industrial Gas Section also has been active in formulating plans for its next year's advertising.

The last four-color advertisements in the current consumer series scheduled for publication in the *Saturday Evening Post* and six leading women's magazines, have been completed. On April 17 a new sales promotion portfolio was issued from New York. This contains samples of reprints of the last three advertisements in the present campaign, a four-color blotter, metal display sign, two counter cards, six one-column newspaper mats and a photo-service sheet containing twenty-one photographs.

Gas Holders as Aids in Aviation

THE Civil Aeronautics Authority in its "Aeronautical Lights and Obstruction Marking Manual" has the following paragraphs:

"Water tanks, grain elevators, gas holders and similar structures which present a hazard to air commerce should be painted so that they will be readily visible from the air.* It is recommended that the top and the upper portion of the vertical surface of such structures be painted with a checker-board pattern of alternate squares of international orange and white. (See color chip below showing shade of international orange.) The sides of such squares should not measure less than 10 feet nor more than 30 feet. At least three rows of such squares on the vertical surface should be visible from aircraft at any angle of approach.

"In the event such structures, because of their shape or type of construction, do not permit application of the method of marking described in the preceding paragraph, then such structures should be painted throughout their height as specified for towers and poles."

The Manual also deals with lighting nightly from sunset to sunrise and presents specifications for the nightly lighting of "water tanks, grain elevators, gas holders and similar structures which present a hazard to air commerce."

Gas Company List

A COMPLETE list of "Gas Distributing Companies Operating in the United States" as of January 1, 1939, has just been published by the statistical department of the Association of Gas Appliance & Equipment Manufacturers, 60 East 42nd St., New York, N. Y.

This publication contains the names of companies supplying gas service, principal office, total number of gas customers served, kind of gas and heating value of gas supplied. Copies are available at \$1 per copy to members of the Association.

Samuel Ramage, Sr. Dies

SAMUEL YOUNG RAMAGE, Sr., civic leader who was prominent in the early development of oil in Oil City, Pa., died April 15 in a Durham (N. C.) hospital at the age of 86. Mr. Ramage was a director of the Columbia Gas and Electric Corporation and had mining interests in Missouri and other states. He was a member of The American Gas Association for a number of years ending in 1936.

* Note: All structures should be cleaned or repainted as often as necessary to maintain good visibility.

Personal AND OTHERWISE

Bruce Cunningham Gets New Post

WILL C. GRANT, advertising director of Lone Star Gas System, Dallas, Texas, has announced the promotion of Bruce Cunningham, former editor of the company's magazine *Blue Blaze News*, to general publicity and special assignments for the advertising and public relations department. Claribel Thompson has been appointed editor of *Blue Blaze News*.

Mr. Cunningham joined the Lone Star advertising staff in 1934 and was appointed editor of the *News* in October of the same year. Under his editorship, the magazine has attained national prominence, having won an Award of Excellence in a contest conducted by the Public Utilities Advertising Association.

Mrs. Thompson, new editor of the magazine, joined the company in 1937 and has handled many assignments on the *News* and written a large number of publicity articles.

Win McCarter Awards for Life Saving

AT an impressive ceremony before 350 employees and their friends, Edward F. Healy, an employee of the New Haven Gas Light Company, New Haven, Conn., was singularly honored on March 19 for a heroic act of life saving. Mr. Healy received the McCarter Medal and Certificate for the successful resuscitation of a woman who had been overcome by gas.

The awards are made for prompt and effective application of the Schafer prone pressure method of resuscitation and are only given after a thorough investigation by the Accident Prevention Committee of the American Gas Association. They are supported by a fund created by Thomas N. McCarter, chairman of the board of the Public Service Corporation of New Jersey.

The presentation to Mr. Healy was made by H. R. Sterrett, president of the New Haven company, who called attention to the gas industry's efforts to encourage adequate preparation and employee training for any emergency.

13 New York Employees Honored

Eleven employees of the Consolidated Edison Company of New York, Inc., New York, N. Y., were recently awarded Mc-

Carter Medals and Certificates for their achievements in saving life by the Schafer prone pressure method of resuscitation. Two other employees of the same company were awarded Certificates of Assistance for supplementary action in connection with life-saving acts.

Those who have joined the select group of McCarter Medal holders are: Jack Hodson, James M. O'Connor, Charles G. Dillenberger, James J. Doyle, Lester G. Erwin, James T. Gordon, William L. Lang, Harold J. Schubert, Joseph Sochurek, Jr., Harry G. Sturcy, and Joseph E. Galla. Certificates of Assistance were presented to Frederick W. Daller and Alfred Roos.

Airco Promotions

JOHAN J. CROWE, formerly manager of the apparatus research and development department of Air Reduction Company, has been appointed assistant to Herman Van Fleet, vice-president and operating manager. H. E. Landis, Jr., formerly assistant to Mr. Crowe, has been appointed manager of the same department. In another Airco change, C. G. Andrew has been appointed manager of gas plants.



For rendering outstanding service in an emergency, Edward F. Healy, New Haven Gas Light Co., receives a McCarter Medal from H. R. Sterrett, company president

Dr. Sayers to Direct Bureau of Mines

DR. R. R. SAYERS, senior surgeon of the United States Public Health Service and formerly safety director for the Bureau of Mines, has been appointed director of the Bureau of Mines by President Roosevelt. Dr. Sayers succeeds John W. Finch who resigned January 31.

Since entering the government service in 1914, Dr. Sayers has been continuously an employee of the Public Health Service but he was detailed to the Bureau of Mines for 15 years. He directed health and safety work of the bureau from 1917 to 1932. He left the office when the bureau took over direction of its own safety operations in 1932 and since then has been in charge of industrial hygiene and sanitation for the Public Health Service.

Dr. Sayers is a member of the American Gas Association and has served on its General Approval Requirements Committee of the Testing Laboratories from its formation in 1925 to date, representing the United States Public Health Service. He is also co-author of Monograph No. 4—"Warning Agents for Fuel Gases"—1931, working under cooperative agreement between the U. S. Bureau of Mines and the American Gas Association, to conduct this investigation.

Dr. Sayers, a native of Crothersville, Ind., is a graduate of the Universities of Indiana and Buffalo. Before entering the Public Health Service, he was professor of electro-chemistry at Buffalo University.

Denning Memorial

AT a meeting in New York on March 20, the Executive Board of the American Gas Association unanimously adopted a resolution in memory of the late L. B. Denning, for many years president of the Lone Star Gas Co., Dallas, Texas, and past president of the Association. The memorial said in part:

"A respected leader in his community and in the gas industry, Mr. Denning was distinguished for his ability and loved for qualities of heart and mind which made for him a host of friends. In early boyhood he was employed in railway service as a water boy. As he worked, he studied law, and in 1899 at the age of twenty-five he was admitted to the bar in Ohio.

"His first service with the natural gas industry came about in 1902 as an attorney. In Texas seven years later he assisted in the founding of the Lone Star Gas Company and as president of the company since 1915, proved his right to leadership as a progressive, resourceful and capable executive.

"That Dallas is acknowledged as one of the few smokeless cities on this continent is also a tribute to Mr. Denning's untiring efforts in behalf of his community as well as the natural gas industry which he served so faithfully and well, first as president of the Natural Gas Association of America in 1922, and later as president of the American Gas Association in 1936."

To Dramatize Services

FOUR entirely new exhibits, designed by Walter Dorwin Teague to dramatize New York City industries, utility taxes and electric-gas-steam use in the metropolitan area, will supplement their "City of Light" diorama at the New York World's Fair 1940, it has been announced by the Consolidated Edison Company of New York, Inc., and its system companies.

Now being rushed to completion in di-

rama workshops, the new exhibits will present in animated, three-dimensional form material underlying the companies' annual report to customers, published in 1940 for the first time. New York City's position as the world's greatest manufacturing center will be stressed. Consolidated Edison officials in charge of the program include Clarence L. Law, vice-president; Harold S. Sutton, executive assistant to the chairman of the board, and Henry Obermeyer, assistant vice-president.

Halloran Advances



T. W. Halloran

THOMAS W. HALLORAN, former gas sales advisor for New York Power and Light Corporation, Albany, N. Y., was recently made sales and utilization engineer. In this new position, Mr. Halloran's activities are expanded to cover all gas sales, sales promotion, and

utilization problems, as well as the control of stocks and types of equipment. The territory he will cover lies in eastern New York State and includes the cities of Albany, Troy, Hudson, Schenectady, Glens Falls, Saratoga, Amsterdam, Johnstown and Gloversville.

Mr. Halloran has been associated with New York Power and Light since 1929 and prior to that was located in Utica. He has been active on A. G. A. committees in past years as a member of the House Heating Committee of the Commercial Section, and as chairman of the Food Industries Committee and a member of the Managing Committee of the Industrial Gas Section. Mr. Halloran is at present a member of the Managing Committee of the Industrial Gas Section.

Elected a Director



Henry B. Bryans

HENRY B. BRYANS was recently elected a member of the board of directors of the Philadelphia Electric Company. Mr. Bryans has been executive vice-president of the company since October, 1938, prior to which he was vice-president in charge of operations.

Born in Philadelphia, he was educated at Central High School and the University of Pennsylvania, where he was graduated as a mechanical engineer. He is associate trustee and a member of the Board of Engineering Education of the University of Pennsylvania, a member of the American Society of Mechanical Engineers, American Institute of Electrical Engineers, Electrical Association of Philadelphia, and the Franklin Institute. Mr. Bryans was elected to fill a vacancy caused by the resignation of W. H. Taylor from the board.

Montreal Output Up

Gas output of the Montreal Light Heat & Power Consolidated, Montreal, Canada, totalled 430,722,000 cubic feet in March, a gain of 2.27 per cent over March, 1939.

CONVENTION CALENDAR

- MAY**
- May 6-10 A. G. A. Natural Gas Section Convention
Houston, Texas
- 6-10 A. G. A. Distribution Conference
Rice Hotel, Houston, Texas
- 8-11 National Fire Protection Association
Atlantic City, N. J.
- 13-14 Indiana Gas Association
Evansville, Ind.
- 14-16 Pennsylvania Gas Association
Sky Top Lodge, Sky Top, Pa.
- 15-17 Natural Gasoline Association of America
Hotel Tulsa, Tulsa, Okla.
- 18-25 International Petroleum Exposition and Congress
Tulsa, Okla.
- 20-22 A. G. A. Joint Production and Chemical Conference
Hotel Pennsylvania, New York, N. Y.
- 20-22 Association of Gas Appliance and Equipment Manufacturers
French Lick Springs, French Lick, Ind.
- 23-24 A. G. A. Executive Conference
Palmer House, Chicago, Ill.
- 27-31 American Petroleum Institute
Blackstone & Texas Hotels, Fort Worth, Texas
- 30-31 A. G. A. Hotel, Restaurant and Commercial Sales Conference
Atlanta Biltmore Hotel, Atlanta, Ga.
- 30-31 Natural Gas and Petroleum Association of Canada
Hotel London, London, Ontario

JUNE

- June 4-6 Edison Electric Institute
Atlantic City, N. J.
- 7 Operating Division, New England Gas Association
Hotel Viking, Newport, R. I.

- 17-20 American Society of Mechanical Engineers
Milwaukee, Wis.
- 23-26 Public Utilities Advertising Association
Palmer House, Chicago, Ill.
- 23-27 American Home Economics Association
Hotel Statler, Cleveland, Ohio.
- 24-28 American Society for Testing Materials
Chalfonte-Haddon Hall, Atlantic City, N. J.

JULY

- July 3-5 Canadian Gas Association—Joint Meeting with Pacific Coast Gas Association
Jasper Park Lodge, Alberta, Canada
- 8-10 Michigan Gas Association
Grand Hotel, Mackinac Island, Mich.

AUGUST

- Aug. 19-21 Appalachian Gas Measurement Short Course
Morgantown, W. Va.

SEPTEMBER

- Sept. 9-13 American Chemical Society
Detroit, Mich.
- 18-20 Pacific Coast Gas Association
Hotel del Coronado, Coronado, Calif.
- 23-26 American Transit Association
The Greenbrier Hotel, White Sulphur Springs, W. Va.
- 25-27 American Trade Association Executives
Chicago, Ill.
- 26-27 Empire State Gas & Electric Association
Westchester Country Club, Rye, N. Y.

OCTOBER

- Wk. 7 American Gas Association Annual Convention
Atlantic City, N. J.

AFFILIATED ASSOCIATION

Activities

Mid-West Gas Convention Plots Extension of Gas Markets

MORE than 300 utility and gas equipment manufacturing representatives attended the thirty-fifth annual convention of the Mid-West Gas Association in Lincoln, Nebraska, April 15, 16 and 17, pronounced by association officials as one of the finest conventions of the organization in recent years.

By executive action the Mid-West Gas Association extended its boundaries to include accredited members in three additional states—Montana, Wyoming and Colorado. The original five states of the association are Iowa, Minnesota, North Dakota, South Dakota and Nebraska.

C. B. Dushane, Jr., American Meter Company, Chicago, was elected president for 1940-41; H. E. Peckham, Northern States Power Company, St. Paul, Minnesota, was elected first vice-president; H. K. Wrench, Minneapolis Gas Light Company, became second vice-president, and R. B. Searing, Sioux City Gas and Electric Company, was re-elected secretary and treasurer. Minneapolis was awarded the 1941 convention.

New members of the executive council (three-year term) include B. R. Bay, Omaha; R. E. Crawford, St. Peter, Minn.; Capt. A. E. Higgins, Pittsburgh; and R. F. Henneman, Ottumwa, Iowa. C. P. Williams, Sioux City, Iowa, was elected to fill an unexpired term.

Mayor Boosts Gas

R. E. Campbell, mayor of Lincoln, head of one of the middle west's largest department stores and an engineer by training, welcomed the Association by saying: "Who wants to go back to the 'good old days'? Who wants to get up early, shake out the ashes, and try to revive the dying embers? As for me, I use gas."

L. R. King, president and general manager of the Iowa-Nebraska Light and Power Company, responded to Mayor Campbell's remarks, and welcomed the assembled delegates on behalf of his, the host, company.

Retiring president Fred J. Gunther, in his "President's Message," outlined the increasing importance of the gas industry which, he said, was seldom regarded by the average citizen as a "big business."

"The investment of the gas industry, however," he said, "is five billion dollars compared to about 4.3 billions in the steel in-

dustry, accepted and conceded as one of America's largest industries."

Discussing the advantages of transmission of natural gas and the resultant economy after changing from manufactured gas, Mr. Gunther said:

"Nebraska, Iowa, Minnesota, North Dakota and South Dakota, represented by the Mid-West Gas Association, have been unusually fortunate in being able to participate in the economic advantages from the long distance transmission of natural gas in the mid-continent section. In 1933, just a few years after its introduction more than 28 billion cubic feet were distributed in these states; in 1938, it reached 50 and a half billion.

"Hundreds of towns in these five states which were too small to economically justify the necessary investment for manufactured gas now have natural gas for domestic, commercial and industrial purposes, putting these smaller communities on a par with larger cities by the use of this modern fuel, and we won't worry about the supply as reputable geologists tell us that there is at least 60 years' supply right now, with more in sight."

CP Program Praised

George E. Frazer of Chicago, discussing the CP (Certified Performance) program said that "a trade mark isn't worth a continental damn just because you spend a million and a half in advertising it unless you have quality behind it." He pointed out that the CP program was a quality program and benefitted from the fine co-operation between the gas men and manufacturers of appliances.

Other speakers on the first day's program were John E. Bogan, assistant promotion manager of the Association of Gas Appliances and Equipment Manufacturers in New York; Mr. Peckham of St. Paul; R. F. Henneman of Ottumwa; and a dramatization of romance in gas cooking by A. T. Carrow and Charles T. Dukes, representatives of Cribben & Sexton company in Chicago.

Enthusiasm for gas as a heating fuel was reflected in the constructive remarks of J. E. Swenson, Minneapolis Gas Light Company, who opened the second day's session with a thirty minute discussion on "The Organization of a Heating Sales Campaign."

John Jameson, vice-president of McCann-Erickson, Inc., outlined the achievements of



Photo by R. W. Stafford.
Courtesy, Connelly Iron & Sponge Co.

Walter C. Beckjord, president of the American Gas Association, is shown at the Mid-West Gas Association's annual convention receiving congratulations from Fred J. Gunther, retiring president of the Mid-West Gas Association. Mr. Beckjord addressed the convention on "The Record of the Gas Industry and Its Future Development"

a continuous national advertising campaign conducted by his firm in behalf of the gas industry nationally under A. G. A. sponsorship. He offered praise for the steadfastness of purpose of the association in its campaign started in 1936 "to promote public acceptance of gas as the modern, efficient fuel for all household, commercial and industrial purposes for which heat is required."

Beckjord Stresses Frontiers

Walter C. Beckjord, president of the American Gas Association, impressively discussed the future of the gas industry and traced its progress to date. In so doing he said:

"The frontiers of expansion are not closed for the gas industry, for there is still great room for development." He reminded the group that "this industry is 125 years old. Our record is exceptional for we have been flexible enough to rapidly adjust ourselves to changes and yet stable enough to maintain a record that cannot be challenged. There are few industries of 125 years ago that are in existence today."

The gas industry was primarily started for home lighting, he pointed out. The advent of electricity dried up that market, and the gas industry leaders then went into the field of cooking, water heating, house heating.

"Then," he said, "in recent years there has been less home cooking, less laundering and other services. But the field of refrigeration has been developed until today it

represents 10 per cent of our domestic business, and that is only in the past 15 years." Air conditioning will prove a substantial factor in increasing the summer load, he declared.

Beckjord warned his audience that the industry must be prepared to meet future competition and changed habits of American living. He declared the fact that sales today are practically the highest in history is due to the advent of natural gas.

W. J. Barber, Metropolitan Utilities District, Omaha, presented the report of the affiliated representative on the Commercial section of the A. G. A. management committee. Mr. Barber will be succeeded at this association post for 1940-41 by Hal Gildersleeve, assistant general manager in charge of merchandising for the Iowa-Nebraska Light and Power Company.

With stage settings and prologue under the direction of H. D. Valentine, The Peoples Gas Light and Coke Company, Chicago, a dramatization entitled "Life Begins in '40 for Gas Refrigeration," was presented by Bernard T. Franck, chairman of the A. G. A. refrigeration committee and vice-president of the Milwaukee Gas Light Company.

"Gas refrigeration has passed the experimental stage," said Mr. Franck, "and is now in the promotional stage. Already gas refrigeration is 26 per cent ahead of last year."

William E. Leverette, sales manager of the Nashville Gas and Heating Company, Nashville, Tennessee, vividly presented the problems of a gas utility faced with TVA competition. He sketched various promotional campaigns instituted to offset much of the effect of this type of competition, out of which have grown some sales philosophies and ideas readily adaptable to other sections of the country.

Hidden Market Formula

Harold W. Stanton, commercial sales engineer for the Iowa-Nebraska Light and Power Company, Lincoln, closed the second day's speaking program with a formula for finding "Your 1940 Hidden Market." Mr. Stanton illustrated his points with various gas-fired devices and cited their innumerable uses in business establishments right up and down "your own Main Street." He pointed out that competing industries have acquired allies of various types to aid them in promoting and servicing their businesses, but declared that the gas industry to date apparently has not endeavored to attract these allies to the cause of its business. The gas-fired tools he demonstrated included such items as blow torches, gas-fueled soldering irons, and welding equipment, fed directly off the lines. His source of air compression was a converted vacuum cleaner motor. Such tools as these, he said, could be assembled in most any company's shop, or in many cases, purchased from manufacturers. He urged such a program as a means for getting new business,—finding a new market.

"The Future of Gas as the Comfort Fuel" was discussed by Keith T. Davis, in charge of engineering for the L. J. Mueller Company, Milwaukee. Mr. Davis estimated today there are nearly 2,500,000 heating installations in the nation, using either natural or manufactured gas for fuel. He urged delegates to drive hard for wide spread public acceptance of gas as the home heating fuel, saying as the new home load increases, so eventually will the old home market. He warned that if gas heating is not pushed, with competitors maintaining aggressive campaigns for the market, there is the hazard of losing the entire domestic load. A hazard, also, he said was the too price-conscious attitude that is growing.

Under the direction of C. A. Nash, United Light and Power Service Company, Davenport, Iowa, a dramatization entitled "Information Please," enacting the most common customer-questions and methods for answering them was presented by D. D. Williams, Otto Ress, James Q. Palmer and C. C. Hellmers, Jr., all of the Iowa-Nebraska Light and Power Company.

The annual banquet was held during the evening of the second day. Registration officially exceeded last year's convention.

Oklahoma Utilities Association

THE twenty-second annual convention of the Oklahoma Utilities Association was held at the Biltmore Hotel in Oklahoma City, March 18 and 19. There was an attendance of approximately 350.

The meetings were presided over by Frank B. Long, vice-president, Oklahoma Natural Gas Co., Tulsa, and president of the Oklahoma Utilities Association. Mr. Long was assisted by the two vice-presidents of the Association, R. K. Lane, president, Public Service Company of Oklahoma, Tulsa, and W. L. Woodward, president, Zenith Gas System, Inc., Alva, Oklahoma.

The first morning of the convention was given over to registration and division meetings. During these division meetings, the gas and electric chairmen were elected. The gas division elected as its chairman, A. F. Potter, general manager, The Gas Service Company, Bartlesville, Oklahoma; and J. C. Happenny, president, Oklahoma Power and Water Co., Sand Springs, Oklahoma was elected the 1940 chairman of the electric division.

Among the featured speakers on the business program was Elmer F. Schmidt, vice-president, Lone Star Gas Co., Dallas, Texas, and chairman of the Natural Gas Section, American Gas Association. Mr. Schmidt's topic was "The Status, the Trend and the Future of the Natural Gas Industry."

Three hundred and seventy-five attended the convention dinner on Monday evening, at which R. K. Lane presided as toastmaster. The speaker for this banquet was Dr. Howard Taylor, Dean, College for Women, Chickasha, Oklahoma.

New Jersey Gas Association

FRANK H. DARLINGTON, of Glenboro, was elected president of the New Jersey Gas Association, to succeed George B. Webber, of Newark, at the 29th annual convention of the organization at Ashbury Park, N. J., April 9.

Preston D. Gardner, of Camden, N. J., was elected vice-president; H. H. Melvin, of Millville, 2nd vice-president; Harry A. Sutton, Newark, secretary-treasurer.

Directors were elected as follows: J. L. Conover, J. P. Hanlan, J. B. Jones, W. T. Potter, B. A. Seiple, Harry A. Sutton and William S. Potter.

The sessions were addressed by prominent members of the gas industry, including Major Alexander Forward, managing director, and Walter C. Beckjord, president of the American Gas Association; William A. Irwin, associate educational director of the American Institute of Banking; Mrs. Eliza M. Stephenson, home service director of the Jersey Central Power and Light Co., and home service chairman of the American Gas Association; R. D. McNeice, Public Service Corp.; Daniel Starch, of the advertising agency of the same name; H. P. Morehouse, Public Service Corp.; L. C. Ginn, Association of Gas Appliance and Equipment Manufacturers; A. D. Howard, Sevel, Inc., and B. A. Seiple, vice-president in charge of sales, Jersey Central Power and Light Co.

The meetings were followed by a banquet in the evening.

Missouri Association of Public Utilities



B. C. Adams

BENJAMIN C. ADAMS, vice-president and general manager of The Gas Service Company, Kansas City, Mo., was chosen president of the Missouri Association of Public Utilities at the thirty-fourth annual convention held in Excelsior Springs, Mo., April 17, 18

and 19. Election of officers took place at the final session on Friday, April 19.

Other officers elected were: D. W. Sander, Jr., president, Missouri Power and Light Co., Jefferson City, first vice-president; C. A. Semrad, St. Joseph Railway, Light, Heat and Power Co., St. Joseph, second vice-president; W. B. Head, Jr., president, Missouri Public Service Corp., Warrenton, third vice-president; Harry Warner, Gas Service Co., Kansas City, treasurer; N. R. Beagle, Missouri Power and Light Co., Jefferson City, secretary; Jesse Blythe, Jefferson City, assistant secretary; E. A. West, Jefferson City, managing director.

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Accounting SECTION

F. B. FLAHERTY, Chairman

E. N. KELLER, Vice-Chairman

H. W. HARTMAN, Secretary

Original Cost—The Regulatory Viewpoint

By CHARLES W. SMITH

Chief, Bureau of Accounts, Finance and Rates, Federal Power Commission

It is with pleasure that I speak to you on the subject of original cost. I need not tell you that I firmly believe in the original cost doctrine. I believe today there are in particular two matters of accounting which are destined to play important roles in the affairs of public utilities: one is original cost, and the other, depreciation. I will keep within the confines of my instructions, however, and will restrict my remarks on this occasion to the subject of original cost, adverting to depreciation only incidentally in connection with the latter subject.

I am sure you understand the views expressed by me are my personal views and that they shall not be construed as expressions of the Federal Power Commission.

The financial-economic-accounting approach to public utility problems has gained much ground, much recognition in rather recent years and I, for one, suggest it has only made a good beginning. The old legal conception of accounting as a matter of form and not of the substance, and therefore, of no real importance—a doctrine which did much to foster and encourage financial abuses—passed out shortly after the turn of the last decade. I need not emphasize this point to a group which undoubtedly has had considerable experience trying to conform to the legislative requirements of recent years, such as the Securities Act of 1933 and the Securities Exchange Act of 1934.

Accounting Function Increasing

Accounting *per se*, accounting as the language of finance, and accounting as the language of a great deal of applied public utility economics will undoubtedly have an increased function in the management and regulation of public utility enterprises as time goes on. Heretofore we have spent much time in laying the groundwork; the future should see more activity in the application of principles.

I said I firmly believe in the original cost scheme. I think it is a most logical and natural doctrine. The inevitable characteristic of the life behavior of physical properties, such as structures and equipment, is expressed by the word "depreciation." Such items of physical properties, to quote a well-known accountant, are on an "irresistible march to the junk heap."

Generally speaking, poles, wire, gas mains, compressors, services, meters, etc. are no more affected by appreciation than your

automobiles, your household hammers and saws, your kitchen utensils, your typewriters, your adding machines and your fountain pens, in spite of all the alleged evidence to the contrary. To reiterate, the natural destiny of such physical properties is the junk heap; they are subject to the inevitable law—the inexorable law—of depreciation. What is more appropriate, then, than the requirement that such properties be recorded in the accounts at original cost and that the depreciation therein be entered as it accrues?

Industrial Practices

You probably grow weary and think odious comparisons of public utilities with industrials, but having been in position to make extensive observations in both the industrial and utility fields, I believe that utilities can profit a good deal by some of the experiences and the practices of their industrial brethren. In the industrial field where I have analyzed many purchases and acquisitions of properties, I usually found the vendee recorded the physical properties acquired on a rather conservative basis and did not hesitate to charge large amounts to accounts for intangibles, such, for instance, as good will. In other words, industrials, generally speaking, recognize the purchase of intangibles and are not loath to reflect that fact in their books of accounts.

With public utilities, however, probably because of psychological reasons grounded in regulation and modes of financing, a different situation frequently prevails. In the latter field there has been great reluctance to show the cost of intangible elements in the books of account, with a corresponding fervor to charge the costs of all purchases to physical property items. cursory studies of such transactions would lead one to believe that the laws of value as applicable to poles, wire, pipe, services and meters defy all the laws of value which apply to automobiles, hammers and saws, kitchen utensils, typewriters and fountain pens. The laws of value do not vary, instead there has been much misinterpretation and much psychological forcing to obtain results which, in many cases, were at great variance with the true facts. I am sure that if the original cost principle had been in effect many years ago, some of our present grave difficulties would not exist.

In the absence of cataclysmic price upheavals, the original cost principle, in my opinion, will lead to more informative financial and operating statements and to more effective regulation. Ultimately, I have not the slightest doubt in the world, the conscientious practice of that principle will react most favorably to the utilities themselves.

I suppose, however, on this occasion you are chiefly interested in hearing from me something of our procedure in handling original cost studies, and something of my views as to how such studies should be made.

The Federal Power Commission has had considerable experience in recent years with original cost studies. As you know, the Commission's system of accounts for public utilities, as defined in the Federal Power Act, became effective on January 1, 1937, and allowed two years from that date for reclassification of the plant accounts in accordance with the provisions thereof. By an order dated May 11, 1937, the manner of reporting the reclassification studies was set forth. By March 15th of this year approximately one hundred and thirty electric utilities had filed studies with the Commission, leaving about ninety of Classes A and B electric utilities under the jurisdiction of the Commission yet to file. Reports are coming in rather regularly.

Commission Procedure

When the reports are received they are reviewed very briefly in the office and if they have the appearance of complying with the system of accounts and the Commission's order of May 11, 1937, they are accepted for filing. The utilities are then expected to record the results of the reclassification studies in their books of account.

At the earliest opportunity a field review of the studies is undertaken by the staff of the Division of Original Cost, one of the divisions of the Bureau of Accounts, Finance and Rates. Accountants and engineers of this division proceed to the offices of the companies having filed the studies, make such examination of books, records and working papers underlying the reclassifications as is deemed necessary, and then report on the results of their investigation. Very frequently the field examination is made in collaboration with representatives of the local State Commission. Thus, at the present time there are fourteen field examinations in progress, and of these, eleven are in collaboration with State Commissions. Our examinations are comprehensive. Our examiners are aided by a statistical

Address before Spring Accounting Conference, White Sulphur Springs, W. Va., April 11-12, 1940.

analysis which shows the figures that are out-of-line with comparable items. We have gone far in developing useful statistics in this work.

After the reports of our field men have been reviewed and approved, a copy is sent to the utility, which is asked to adjust its books to conform thereto. In the event a utility does not agree to make the adjustments indicated by the report, then it is most likely that a complete and full hearing on the company's study and the staff investigation will be had by the Commission.

We have completed about nineteen field examinations so far. Only a few reports, however, have been written, the others being in progress.

Some of the methods employed by electric utilities in making their studies have been found unsatisfactory. In a few cases, after spending several months on an assignment, we have had no recourse but to ask the utility to do a great deal of additional work and sometimes at a considerable additional expense. There are instances which have come to our attention where the entire study will likely have to be done over again at a substantial cost or loss.

Accounting Control Vital

We are not unmindful of the fact that some persons insist our interpretations contravene legal rights and they pursue their own way, regardless of our views. I will revert to this subject in a few moments. Just now I would like to discuss some of the difficulties we have encountered, and some of our views as to what must be done in order for the studies to be acceptable.

The most serious error we have encountered to date has been the failure in a few instances to maintain accounting control while the original cost study was in process. This is a vital point. The absence of accounting control leads me immediately to the conclusion that there is no satisfactory proof the work has been accomplished in a competent manner. By accounting control, I mean every step of the process should be tied in with the books of account where it is at all possible to do so and, in any event, every step must be reconciled with the books of account. The compilation must be in such manner as to permit the identification of costs included in the final study with pertinent book figures. It should not be forgotten that we are dealing with accounts, that we are dealing with a reclassification of accounts, hence, the thing we are reclassifying must not be ignored. In one or two cases we have examined studies which cannot be reconciled with book figures, and these, very frankly, we must condemn.

The second procedure concerning which we have grave objection is the inventory and pricing method—the appraisal method—where the pricing is estimated instead of being determined by an analysis of the accounts. Estimates of cost are not permitted by the systems of accounts for property constructed by the utility. Estimates of original cost can only be resorted to

for properties acquired as operating units or systems, and then only if original cost cannot be determined in some other manner. We know of instances where inventories have been taken of the entire property of a utility and then the inventory units have been priced at average amounts based upon the appraiser's judgment. Sometimes the judgment is informed or reinforced by analyses of certain work orders for certain years. This method, I repeat, is unsatisfactory. It substitutes estimates of cost for the company's own construction costs whereas, under the system of accounts, the accounting facts should prevail. Let me say again, there is no justification for the argument that the utility must estimate the cost of its own construction and substitute that estimate for true accounting costs.

Cost Ceiling Urged

We recognize, of course, that where continuous property records are being installed for the first time, it is necessary to compute unit costs and in computing unit costs, it may be necessary to resort to somewhat arbitrary allocations. In these instances there should be a total cost ceiling arrived at in a proper accounting manner (estimates of the cost of acquired property being used where necessary for purchased property). The reverse of this process, namely, the process of arriving at unit costs first and then adding up the total cost of all units for the purpose of ascertaining the overall cost is an appraisal method of no merit.

The accounting analysis, in other words, is the proper method; methods which smack of reproduction cost estimates, even though called by other names, are not sanctioned.

Methods which have as their objective the inclusion in the plant accounts of items previously charged to expense according to a system of accounts which was in effect in the past, or in accordance with generally accepted principles of accounting at the time, are most objectionable. The uniform system of accounts for natural gas companies provides, among other things:

"It is not intended that adjustments shall be made to record in gas plant accounts amounts previously charged to operating expenses in accordance with the uniform system of accounts in effect at the time or in accordance with the discretion of management as exercised under such uniform system of accounts." (Gas Plant Instruction 2B.)

The foregoing provision means what it says. Once more let me recall we are dealing with a reclassification of accounts. We do not say the old systems were wrong, rather we say we need much more information and information of greater uniformity than we were able to obtain in the past. Hence, more precise rules of accounting for the future are prescribed.

One of the recent innovations in this respect was the prescribing of a list of retirement units of property. The list of retirement units is not sacrosanct nor is it pure science. We all know that it is subject to change. The list is not precise

in detail; considerable discretion is permitted; it is conceivable that conditions may so change as to make a different list of retirement units appropriate. The present accounts are not vitiated because the utilities in the past used some other list of retirement units, any more than they are vitiated because industrials do not have lists of retirement units today. Nor are they vitiated because some other list may be prescribed or self-imposed in the future.

The problem of determining the difference between the cost of plant items themselves and the cost of keeping those items in good operating condition is not always easy to solve. There are many borderline cases. In order to obtain uniformity we have become positive and have definitely established a line of demarcation by prescribing a list of retirement units. We would be in error if we attempted to make that list retroactive in its effect to the beginning of operations of a gas company. The constitutional issue would immediately be raised if an enforced retroactive application compelled a write-down of otherwise bona fide accounts. It is just as erroneous for a utility to claim retroactive effect and to impeach its own records when such records conform to the standards of the time and to accepted standards of general accounting today. This is especially true when it is remembered that utilities have the option of refining the list of retirement units at will.

To be consistent, those who argue for a re-accounting should also argue for the immediate setting-up of a proper depreciation reserve. The latter argument, however, is never made.

The "Effort" Principle

We find in a few, but not many, places an attempt to apply what is termed the "effort" principle—a principle similar to the "sacrifice" principle of the classical economists—in the original cost determinations. This theory or principle holds that if any effort is expended or any sacrifice is made, a corresponding cost must be recorded. Specifically, its proponents contend that if any effort is expended in acquiring or in constructing property, the full cost of that effort should be included in the plant accounts. Hence, it is argued that officers and general office employees devote any effort to construction, a part of their compensation must be capitalized in the plant accounts. Furthermore, it is argued, this rule must be applied to the past and that if the accounting records fail to disclose the cost of such efforts in the present plant accounts, adjustments to include that cost must now be made under the authority of the uniform system of accounts.

Those who advocate this principle take a very narrow view of the principles and practices of accounting. They look to the cost element alone. They are not mindful of the fact that today the real emphasis is on the income statement, not the balance sheet. It ought to be a truism in accounting, if it is not one, that the income of a

company should never fluctuate with the volume of its own construction—it should fluctuate only with the volume and profitability of revenue transactions. The "effort" theory would do much damage to this more fundamental principle. Under the uniform system of accounts in effect today, I believe it wholly justifiable to charge only the incremental amounts of administrative and general expenses to construction, for otherwise, the income statement will be distorted and distorted income statements may do great damage.

Therefore, I think it wrong to attempt to include in the plant accounts items which were deliberately and knowingly charged to expense under approved methods of accounting and general practices of the time, especially when such past practices are not now considered wrong—not considered, as the lawyers put it, *mala in se*—but are merely prohibited.

Errors in Accounting

Closely allied with the foregoing is the claim sometimes made, that the books and records contain all sorts of accounting errors which must be corrected. Accounting errors, of course, should always be corrected as soon as discovered. There is no excuse for perpetuating an accounting error. But, some of the things which are alleged to be accounting errors would impeach all the plant records ever kept. The first and most fundamental principle of accounting is the distinction between revenue and capital expenditures. The system of accounts issued in 1922, by the National Association of Railroad and Utilities Commissioners, provided for this distinction. It is somewhat amazing then to receive a letter such as we received recently, to the effect that the plant accounts were wholly unreliable and that all the costs would have to be restated, even though we know that most of the company's construction occurred since 1922.

Initial plant accounting errors represent discrepancies between the amounts entered in the plant accounts and the actual identifiable expenditures for plant, which, under the system of accounts in effect or generally accepted principles of accounting at the time, were required to be charged to plant accounts. Such errors usually involve pricing and extending material and labor tickets, erroneous distributions, wrong postings, mathematical errors and very rarely errors of accounting principle. Public utility accountants were too well informed as to accounting principles to have made the serious errors which are now sometimes charged to them. It was and is the general practice to correct accounting errors when discovered. When it is sought to correct an alleged error by increasing the amount recorded in the plant accounts, documentary proof of the error is required and opinion evidence is not satisfactory. Our point of view in this matter must ever be directed toward the fact that we are dealing with a reclassification of accounts and not with a re-accounting.

There is one accounting error, however, which is prevalent over a wide area and which needs a great deal of attention. I refer to the failure to record retirements of property. Because continuous property records were not very widely used in days gone by, it was quite natural that retirements of property sometimes went unnoticed as far as books of account were concerned. There was little internal check on retirements due to the absence of continuous property record. As an incident to their original cost studies, utilities are now correcting for this type of error. Our staff in the course of its investigations quite naturally gives considerable attention to discrepancies of this nature.

Turning now to concrete suggestions, the original cost procedure should emphasize the accounting approach, for that approach is specifically required by the Uniform System of Accounts. If a utility's own construction has been accounted for in accordance with the system of accounts prescribed by a Regulatory Commission or in accordance with generally accepted principles of accounting, then only *real* accounting errors should be looked for therein. These accounting errors involve, predominantly, unrecorded retirements. The original cost of property acquired as operating units or systems should be ascertained by the accounting method, if possible, and if not, estimates of the original cost thereof are permitted.

Work Order Cost

Where appraisals have been recorded in the books, or where unrecorded retirements are substantial, it may be necessary to examine the cost of all items of property, those constructed as well as those purchased. In such an event, the cost of items such as land, buildings, compressor stations, transmission mains and similar large, identifiable units should be ascertained from the books and records. When it comes to the mass outside plant consisting of a very large number of similar items, such as poles, wire, distribution mains, services, etc., it may be necessary to take a complete inventory and to price the units, using book figures such as those obtainable from work orders. If this process be necessary, the work order cost should be distributed to the units until all the work orders are accounted for and then any remaining units should be priced on an estimated basis. This method may employ the first-in first-out principle if the units are not identifiable as to actual time of construction, or perhaps a mortality curve may be resorted to for the purpose of ascertaining probable date of construction. In any event, the accounting cost should be applied to the units and estimated cost should not be employed until the accounting data have been exhausted. Where the overall original cost of a functional group or plant, such for instance as distribution mains, is ascertainable, considerable latitude is recognized in spreading that cost over the units of property for the purpose of establishing a continuous property record.

Some time ago the Appellate Division of the New York Courts handed down a decision in what is known as the Wellsville case, a case with which I am sure you are familiar. The court held that overheads and other items not capitalized at the time expenditures were made may now be included in capital account. You already know that I disagree with that decision, for my remarks have been directly contrary to its tenor. The decision is likewise contrary to the one more recently handed down by the Supreme Court of Illinois in Peoples Gas, Light & Coke Company vs. Illinois Commerce Commission and to several other cases. The Supreme Court of the United States has gone to great length in sustaining accounting regulations of regulatory commissions. In fact, without having re-examined the subject recently, I recall no decision of that court which is adverse to an accounting order of a regulatory commission. I believe the principles I have enunciated are sound law and sound accounting. I hope, however, that jurisprudence may not have to be called into play in this matter.

ACCOUNTING CONFERENCE

(Continued from page 164)

ing, although in turn it is an indication of how well the speakers put across their ideas.

Harry Jeffs, Queensboro Gas & Electric Co., led the discussion on "Customer Accounting from the Customer's Viewpoint" in which he pointed out the prime factors which interest customers in the operations of billing, meter reading, collections, etc., and indicated what he believed to be the inherent weaknesses in some of the systems and practices followed by customer accounting groups.

George Fuchs, Philadelphia Electric Company, in excellent fashion brought out the highlights of his report having to do with "Banks and Other Agencies as Payment Points for Customers." The material he had gathered concerning the practices of various utilities brought out widely divergent methods.

The use of meter reading books, which has been an old established custom, was thoroughly discussed by T. P. Johnson, Public Service Company of Northern Illinois. He disclosed some interesting points for the customer accounting men to carry home with them.

The last speaker was Wallace G. Murfit, of The Philadelphia Gas Works Company, who discussed "Customer Relations from the Woman's Viewpoint." Mr. Murfit had tabulated the results of sampling by various companies which disclosed some little-known facts, particularly that women prefer to do business with men rather than their own sex in connection with appliance purchases, high bill complaints, etc.

It can be conservatively stated that the delegates primarily interested in customer accounting and customer relations work profited from the evening meetings and expressed a desire that this type of meeting be followed at future conferences.



Commercial SECTION

DAVIS M. DEBARD, Chairman

R. J. RUTHERFORD, Vice-Chairman

J. W. WEST, JR., Secretary

National Prizes Spur CP Gas Range Sales to 40 Per Cent Increase



George L. Scofield

WITH sales of CP gas ranges 40 per cent higher in the first two months of this year than in the same months of 1939, America's gas range salesmen are competing for membership, honors and awards in the "CP Ranger Club," a national sales fraternity organized in 1939 by the American Gas Association. This club was designed to set nation-wide standards for "Certified Performance" salesmanship and to provide recognition for outstanding sales accomplishments.

In 1939, more than 10,000 gas company and dealer salesmen from 48 states and Canada competed for honors in the CP Ranger Club, according to George L. Scofield, Chairman of the Association's National Range Committee. Two hundred and seventy-five gas range salesmen achieved membership in the Club by selling at least 25 CP models each, in addition to other ranges, during the 1939 calendar year. By leading all other salesmen in the country, with a total installation of 280 CP's, Mrs. Cora Riegelman, of Barker Bros., Los Angeles, Cal., clinched the title of "National Commander" of the CP Ranger Club for 1940.

Special Awards for 1940

Larger awards for 1940 will be announced in *The CP Ranger News*, a publication distributed quarterly to all registered gas range salesmen. These awards will include 8 free all-expense trips, 24 cash prizes and 15 handsome trophies for gas companies, gas company and dealer salesmen, and sales executives.

For the purpose of this nation-wide competition, the United States has been divided into eight geographic regions. Gas company and dealer salesmen will compete for regional as well as for national honors and awards. Gas company salesmen in each region with the greatest number of CP ranges installed by September 30, 1940, will receive a trip, with all expenses paid, to the American Gas Association National Convention at Atlantic City, next fall. Three individual cash prizes will be awarded

to dealer salesmen in each of the 8 regions.

Salesmen who sell 25 CP ranges during the year qualify as members of the CP Ranger Club and receive the bronze Ranger emblem, a Certificate of Membership presented by the head of their organization, a personal letter of appreciation from the National Chairman of the A. G. A. Range Committee, and publicity in local and national trade journals. Sales supervisors, sales managers, and dealers become Rangers when one-half of the men they supervise qualify for membership in the CP Ranger Club. Rangers who qualify two years successively receive a silver emblem; three years, a gold emblem.

For 50 or more CP gas range sales in any one year, salesmen receive the title

of "Star Ranger" and their emblems are set with a diamond for each year they qualify. Supervisors, sales managers, and dealers earn "Star Ranger" awards when three-fourths of their sales force become Rangers.

Those who maintain their Ranger status by selling 25 CP ranges each year for three successive years win the rank of "Royal Ranger." Star Rangers for four successive years become Royal Star Rangers. Both classes receive distinctive emblems and personal recognition for their consistent sales achievements.

Trophy for Gas Companies

To promote competition among gas companies, two activities have been set up—one on a regional and one on a divisional basis—and 15 CP Ranger Victory Trophies will be given to sales leaders. The Victory Trophy is a silver figure of a mounted Ranger set on an inscribed walnut base.

A trophy will be awarded in each of the eight geographic CP regions to the gas company with the largest number of company and dealer CP range installations per 1,000 gas meters in residential homes for the year 1940. Seven divisional awards will be given to gas companies. To assure fair competition, divisions are set up so that each company will be competing with companies of about its own size. Trophies will be awarded to the company in each of the seven divisions which reports the largest number of company and dealer range installations per 1,000 gas meters in residential homes.

Sales of CP ranges between January 1 and December 31, 1940, count toward membership in the CP Ranger Club and in national, regional, and divisional awards, provided the gas company registers on or before June 1.

Inquiries concerning the CP Ranger Club will be answered at its headquarters in the American Gas Association, 420 Lexington Avenue, New York City, or by any of the following CP Ranger Club directors: George L. Scofield, Chairman, Republic Light Heat & Power Co., Buffalo, N. Y.; Lloyd C. Ginn, Vice-Chairman, American Stove Co., Cleveland, Ohio; R. C. Anderson, United Gas Corp., Houston, Texas; Fred C. Armbruster, Middle West Service Co., Chicago, Ill.



The Victory Trophy which will be awarded to gas company sales leaders in the CP range campaign. It is a silver figure mounted on an inscribed walnut base



Meeting of regional and state CP managers and other gas utility executives from New York, New Jersey, Pennsylvania, Delaware, Maryland, and the District of Columbia in Philadelphia, March 13. W. E. Bolte, new business manager, The Brooklyn Union Gas Co. (fourth from left, seated), made the principal address. At Mr. Bolte's left is L. B. Eichengreen, vice-president, Philadelphia Electric Co., and CP state manager in Eastern Pennsylvania.

W. E. Bolte, The Brooklyn Union Gas Company, Brooklyn, N. Y.
J. W. Booth, Roberts and Mander Stove Co., Hatboro, Pa.
John A. Fry, Detroit-Michigan Stove Co., Detroit, Mich.
C. R. Graham, Jas. Graham Mfg. Co., Newark, Calif.
F. J. Hoenigman, Cribben & Sexton Co., Chicago, Ill.
J. W. Lea, Atlanta Gas Light Co., Atlanta, Ga.
Malcolm Leach, Glenwood Range Co., Taunton, Mass.

M. G. O'Hara, Norge Division—Borg-Warner Corp., Detroit, Mich.
J. J. Quinn, Sales Manager, Boston Consolidated Gas Co., Boston, Mass.
A. F. Rice, Southern California Gas Co., Los Angeles, Calif.
Wendell L. Smith, A-B Stoves, Inc., Battle Creek, Mich.
Alan P. Tappan, Tappan Stove Co., Mansfield, Ohio.
S. D. Whiteman, Sioux Falls Gas Co., Sioux Falls, S. D.
C. C. Young, The Gas Service Co., Kansas City, Mo.

23 Companies Win Certificates in Refrigeration Contest

TWENTY-THREE gas companies have been awarded Certificates of Award for leadership in sales performance during the first three months of the current year-round gas refrigeration sales drive sponsored by the American Gas Association, it was announced by Bernard T. Franck, chairman of the Refrigeration Committee, and vice-president of the Milwaukee (Wis.) Gas Light Co.

The certificates were awarded to those companies which led their respective divisions in sales in the initial quarter of the first year-round gas refrigeration campaign entitled "Life Begins in '40 for Gas Refrigeration."

Recipients of the Certificates of Award for the first quarter are as follows:

Winning companies in the *First Division*:

1. *Greatest Number of Installations Per 10,000 Meters:*
Washington Gas Light Company, Washington, D. C.
2. *Greatest Total Installations Reported:*
The Brooklyn Union Gas Company, Brooklyn, New York.
3. *Greatest Per Cent of Increase of Installations Over the Reported 1939 Installations:*

Kings Appliance Corporation, Brooklyn, New York.

4. *Greatest Number of Individual Retail Installations Sold at the Prevailing Retail Prices and Under the Policies of Each Company:*
Southern California Gas Company, Los Angeles, California.
5. *Greatest Per Cent of Replacements of Outmoded Automatic Refrigerators Against Total Installations Reported:*
The Peoples Gas Light & Coke Company, Chicago, Illinois.

Winning Companies' names in the *Second Division* are:

1. *Greatest Number of Installations Per 10,000 Meters:*
Brooklyn Borough Gas Company, Coney Island, New York.
2. *Greatest Number of Total Installations:*
Milwaukee Gas Light Company, Milwaukee, Wisconsin.
3. *Greatest Increase Over 1939 Reported Installations:*
Public Service Electric & Gas Company, Trenton, N. J.
4. *Greatest Per Cent of Total Sales Where Installations Replaced Outmoded Automatic Refrigerators:*

Cambridge Gas Light Company, Cambridge, Massachusetts.

Winners in the *Third Division*:

1. *Greatest Number of Installations Per 10,000 Meters:*
Lynchburg Gas Company, Lynchburg, Virginia.
2. *Greatest Number of Total Installations:*
Atlantic City Gas Company, Atlantic City, New Jersey.
3. *Greatest Increase Over 1939 Reported Installations:*
Florida Power & Light Company, Miami, Florida.
4. *Greatest Per Cent of Total Sales Where Installations Replaced Outmoded Automatic Refrigerators:*
Roanoke Gas Company, Roanoke, Virginia.

Winners in the *Fourth Division* are:

1. *Greatest Number of Installations Per 10,000 Meters:*
Mobile Gas Service Corporation, Mobile, Alabama.
2. *Greatest Number of Total Installations:*
Kansas City Gas Company, Kansas City, Missouri.
3. *Greatest Increase Over 1939 Reported Installations:*
Kansas City Gas Company, Kansas City, Missouri.
4. *Greatest Per Cent of Total Sales Where Installations Replaced Outmoded Automatic Refrigerators:*
Atlanta Gas Light Company, Atlanta, Georgia.

Winning companies' names in the *Fifth Division* with their classifications are:

1. *Greatest Number of Installations Per 10,000 Meters:*
The Union Appliance Company, Independence, Kansas, Missouri.
2. *Greatest Number of Total Installations:*
Macon Gas Company, Macon, Georgia.
3. *Greatest Increase Over 1939 Reported Installations:*
The Gas Service Company, Merriam, Kansas.
4. *Greatest Per Cent of Total Sales Where Installations Replaced Outmoded Automatic Refrigerators:*
Owensboro Gas Company, Inc., Owensboro, Kentucky.

Winning companies' names in the *Sixth Division* with their classifications are:

1. *Greatest Number of Installations Per 1,000 Meters:*
Atlanta Gas Light Company, Newnan, Georgia.
2. *Greatest Number of Total Installations:*
Virginia Gas Distribution Corp., Staunton, Virginia.
3. *Greatest Percentage of Increase Over 1939 Installations:*
Michigan Fuel & Light Company, Traverse City, Michigan.



Colorful and exciting was this sales-pulling gas display at Hartford Exposition

Sales Promotion Pays Dividends at Hartford Exposition



H. R. Carlson

AT the show-rooms of the Hartford Gas Company during the week of March 9th, Mr. and Mrs. John Q. Public flocked to witness the unique promotion "Gas Progress Exhibition Week," sponsored by the Hartford Gas Company.

They came, they saw and were conquered with the sales force on the firing line rolling up a total of 449 new gas appliance sales totaling nearly \$60,000 in volume. Endorsed by management under the active direction of Howard R. Carlson, sales manager, and directly supervised by Charles W. Kimball, the program left little to the public's imagination regarding the services rendered to them by the local gas company.

Public Relations Value Great

Far more valuable than the dollar and cents total of gas appliance sales and increased gas load will be the far-reaching effect on public opinion. If the old axiom of sales promotion is true, to wit, that every sales promotion program must begin with the consumer, the Hartford Gas Company is definitely scheduled to reap increasing rewards as the result of this singular sales promotion and public relations activity.

Neatly arranged, and splendidly executed, the program was so devised as to involve salesmanship, showmanship and public relations.

Features for the entire family were included in the program, comprising of music, gifts and refreshments. The major spotlight of publicity was focused on George Rector, nationally known food authority and restaurateur, whose two-day cooking demonstrations played to capacity crowds. In addition to Mr. Rector, the program was highlighted by other nationally known exponents of cookery—the famous Mystery

Chef and Carl Sorby of the Cribben and Sexton Company.

Additional features were the Children's Review over the local radio station to which all children were invited, and the distribution of over \$2,000 worth of merchandise as prizes.

Teaser ads in the press, a special eight-page magazine section in the *Hartford Times*, daily merchandise ads, a sixty-foot streamlined poster board erected on Hartford's main thoroughfare, car ads, radio spot-announcements, truck signs and bulletins to employees, dealers, plumbers, and invitation letters from Home Service and salesmen to prospects, materially assisted in bringing the story to the public.

It is interesting to note that the Hartford Gas Company has 55,000 meters and that the volume of the new appliance sales generated by this promotion equaled over \$1 per existing meter.

Information and details regarding the program will be sent to all member gas utility companies shortly by the Commercial Section of the American Gas Association.

EHFA to Finance Gas Heaters

CIRCULATING gas heaters and gasteam radiators have been added to the list of domestic gas appliances which may be financed under the Electric Home and Farm Authority plan, according to an announcement by Henry D. Brite, EHFA commercial manager. This action was taken in response to numerous requests from appliance dealers and utilities, it was stated.

This equipment will be financed on the same terms that are available for other gas appliances which permit a minimum down payment of 5 per cent of the cash installed price and a maximum maturity of 36 months. Maturities up to 48 months are available for sales including two or more major gas appliances.

Gas Heats World's Fair Buildings

DURING the past Winter, remembered for its severe cold waves, gas was used for protective heating in 58 New York World's Fair buildings with highly satisfactory results, according to Stanley B. Finch, World's Fair Co-ordinator for the gas industry. Mr. Finch disclosed that 221,000,000 cubic feet of gas were sold to the corporation and private exhibitors during the six-month period from Oct. 1, 1939, to March 31, 1940. He also pointed out that 630,000,000 cubic feet of gas had been used by the Fair since its start.

"Wherever gas was used in the exposition grounds during the cold winter it provided dependable service, thus demonstrating its superiority as an automatic and flexible heating agent," Mr. Finch stated.

Gas-fired unit heaters have been used successfully during the winter in numerous buildings on the Fair Grounds, their flexibility having furnished economical and readily adaptable heat. These gas-fired heaters were also used last year as they will this year in restaurants at the exposition.

Fair Exhibit Support Is Praised

ALL the members of the gas industry—the gas utilities and the manufacturers of gas appliances and equipment—whose financial support is enabling Gas Exhibit, Inc., to stage this year's new spectacular exhibit group at the New York World's Fair, have received high praises for their interest and enterprise from Hugh H. Cuthbert, president of the sponsoring organization.

He said: "The promptness and generosity of the members of the industry in contributing toward the fund which has been used in converting the original 'Court of Flame' exhibit into 'Gas Wonderland' redounds to the credit of the industry as a whole. As the result of this collaborative effort, Gas Exhibits, Inc., has been able to put on a show at the New York World's Fair which is unique in character. 'Gas Wonderland' will excel all previous efforts to advertise through the art of display showmanship the progress made by the gas industry."

Home Service Change

G LADYS VAUDREUIL has been appointed home service director of the Roanoke Gas Company, Roanoke, Va., succeeding Mrs. Virginia Shoop Hall who was transferred to Raleigh Gas Company, Raleigh, N. C.

Miss Vaudreuil was formerly home service director of the Northern States Power Company at Stillwater, Minn. She is assisted in her territory which includes Vinton and Salem, Va., in addition to Roanoke, by Mrs. Margaret Frier Lavinder.

Novel Promotion Stimulates Gas Water Heater Sales



R. J. Paulsen

MORE than 2,100 master plumbers, journeymen plumbers, architects, builders and representatives of water heater manufacturers and their families in the greater Cincinnati trading area, gathered at the Taft Auditorium, Cincinnati, Ohio, on Wednesday, March 13, to hear the details of an outstanding water heating sales promotional program to extend from March 15 to June 15.

Sponsored by the Water Heater Manufacturers and Distributors Association, the program is under the direction of R. J. Paulsen, director of the Dealer's Cooperative Sales Department of the Cincinnati Gas and Electric Company and secretary of the Association.

The Cincinnati Water Heater Manufacturers and Distributors Association was formed in 1936 after the discontinuation of water heater merchandising by the utility company, and is comprised of representatives of water heater manufacturers, dealers and plumbing supply houses. Meetings are held monthly at which time water heater sales and promotional programs are discussed and inaugurated, and it is the function of the Association to assist in increasing the sale of gas water heaters through plumbers and dealers.

"Hot Water Vanities" Presented

Mr. Paulsen, the principal speaker of the evening, gave a complete résumé of the program to the large and enthusiastic audience. Speakers included Henry S. Blank, president of the National Association of Master Plumbers, and others of similar calibre. Featured attraction of the evening was the presentation of a complete show, "The Hot Water Vanities," comprised of nationally known stars of radio, stage and screen. There was no charge for admission, tickets being available to master plumbers, journeymen plumbers, architects and builders upon request to twelve local plumber dealers and representatives of water heater manufacturers.

The objective of the program is not only to stimulate the interest of gas water heaters among the local plumbing and water heater industry, but is especially designed to arouse the interest of the public on the subject of gas water heating. This was accomplished through an attractive broadside, 100,000 copies of which were distributed in the Cincinnati area. The broadside was prepared in such fashion that it could be used by master plumbers and

journeymen plumbers. It included the essential principles of water heater sales, pointing out in vivid fashion the merits and benefits of gas water heating.

Novel features of the sales promotional program including the payment of \$1 to journeymen plumbers for leads on water heaters furnished to master plumbers, and the arranging of a special easy payment plan in cooperation with the Fifth-Third Union Trust Company of Cincinnati. This plan incorporates no down payment, no recourse, low interest, easy payments and extends up to three years. Future plans include special water heater window displays both at the utility company and at the offices of the bank, advertising by water heater manufacturers, radio program and other publicity features. Sales resulting from this promotion will be announced after its completion.

Heating Load

GAS sales of Jersey Central Power and Light Company for 1939 totaled 1,714 million cubic feet, an increase of over 68 million cubic feet over 1938. The increased use has come, for the most part, from water heating appliances sold and house heating systems installed.

New Film on CP Gas Ranges

A HANDSOME and striking new sound film in technicolor entitled "The Parade to Profits" is now available to key gas utility sales outlets, according to an announcement by Lloyd C. Ginn, from the headquarters of the Association of Gas Appliance and Equipment Manufacturers in New York City. The release of the film is part of the big promotional program sponsored by the CP gas range manufacturers outlined in the CP Spring-Summer portfolio mailed to approximately 20,000 dealer and utility outlets in February.

"The film emphasizes the large national advertising campaign of the American Gas Association now in progress which is aimed at tapping the big replacement market of more than 8,000,000 prospects who are badly in need of modern gas equipment for cooking," the announcement states.

It is explained in the announcement that the film is not for sale. It can be obtained gratis at the one hundred clearing points named in the Spring-Summer portfolio. Additional information regarding the film and its distribution can be had by addressing the A.G.A.E.M. at its office in New York.

Aimed at showing that twenty-two sales features of the CP range are superior to the price appeal, the film consists of a series of scenes with a narrator interpreting the situations in the familiar manner of the newsreel that is so well known to motion picture audiences.

Employees Compete in Speaking Contest

IN order to give all employees of the Dominion-Republic group of gas companies an opportunity to develop their ability to speak clearly and forcibly, a speaking contest is being sponsored by S. B. Severson, vice-president and general manager, as a part of the recently announced Employee Development and Training Program. This group of companies includes Republic Light, Heat & Power Co., Inc., serving Western New York and the Dominion Natural Gas Co., Ltd., serving Southern Ontario, Canada.

The competing employees will be asked to speak on "How I Can Do a Better Customer Relations Job?" It is anticipated that the talk will cover the employee's own job, its relation to company operations and personnel and how these factors can be used to promote better customer relations.

Elimination contests will be held in the ten operating divisions and the successful contestants will compete in a final contest to be held in May. The grand prize is a special week-end trip to New York City in the early Fall. In each of the local contests prizes of \$10 and \$5 will be paid to the winners.

H. P. Nagel is educational director of the companies.

Part of the 2100 people who jammed the Taft Auditorium to see "The Hot Water Vanities" and hear details of an outstanding water heating sales promotional program





Industrial Gas SECTION

F. T. RAINEY, Chairman
H. CARL WOLF, Vice-Chairman
E. D. MILENER, Secretary

Toledo Industrial Gas Sales Conference Sets Record-Breaking Precedent

SOME 215 industrial gas leaders assembled in Toledo March 28 and 29, for the 1940 A. G. A. Conference on Industrial Gas Sales—and, although an attendance record for industrial gas meetings was shattered, the significance of the registration lay more in its nature and attitude than in its numerical count. Despite the long distances, gas men came from Los Angeles, San Francisco, New Orleans, Houston, Dal-

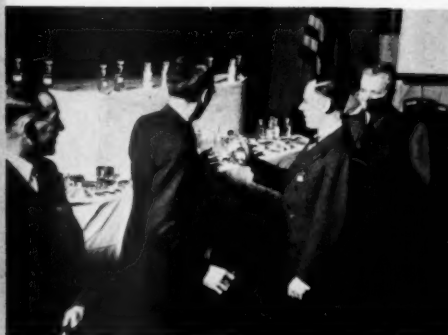
By EUGENE D. MILENER

Secretary, Industrial Gas Section

western Ohio Natural Gas Company, then conveyed his greetings and sketched the amazing extent of industrial gas utilization in the Toledo area, surrendering the floor in turn to B. H. Gardner, vice-presi-

were: carburized metal parts, plastics and synthetic chemicals of all varieties, gas reduced iron, synthetic rubbers, and nitromethane, a new base for explosives recently made available by replacing one of the hydrogen molecules in methane with a nitrogen group.

Distributed to those at the meeting was an interesting list of 42 case histories of chemical gas usage under four classifica-



Visual proof of the wonders of industrial gas made the delegates to the Toledo conference sit up and take notice when the experts presented their views on new developments. At left, C. George Segeler, of the A. G. A. staff, shows E. L. Stauffer, Charleston, S. C., and George L. Ballard, Springfield, Ill., a bottle of nitromethane, new explosives' base made from natural gas. In the center, Frederic O. Hess, president, The Selas Co.; Hale A. Clark, of Detroit; and Don A. Jacobsen, Burdette Mfg. Co., take part in the Infra-Red Ray Heating Clinic, with further evidence of gas-fired magic. At right, the camera covered a wide territory when it caught, left to right: W. S. Anderson, Boston; J. M. Robertson, Houston; J. H. Gumz, San Francisco; Franklin T. Rainey, Section Chairman, Columbus; and C. T. Bennett, Toronto

las, Atlanta, Boston, Hartford, and Toronto—and in several cases delegations of three or more came from the same distant point. Also, a higher-than-usual percentage of new faces in industrial gas were to be found, as well as a healthy representation of vice-presidents and general managers.

From the first stroke of the gavel when Franklin T. Rainey, chairman, A. G. A. Industrial Gas Section, and general sales manager, The Ohio Fuel Gas Company, called the opening session to order, industrial gas men got down to brass tacks on the most significant problems of the day. Frank H. Adams, president, Association of Gas Appliance and Equipment Manufacturers, and vice-president and general manager, Surface Combustion Corporation, expressed the manufacturers' appreciation of the cooperation being received from industrial gas sales departments, and introduced Ollie Czelusta, Vice Mayor of the City of Toledo, and his cordial words of welcome.

I. A. Ludwig, Toledo manager for North-

dent, Columbia Engineering Corporation, for a word with regard to the significance of the industrial load to the Columbia system, and an outline of the aggressive steps being taken by his company to secure and further develop the important industrial load.

Gas As A Raw Material

With the bombshell, "Believe it or not, the total annual volume of gas used today as a chemical (not as a heat source) is almost equal to the total sales of natural gas for domestic purposes," C. George Segeler, utilization engineer, American Gas Association, opened the program of prepared papers on the subject of "What Results Can Be Expected from the Use of Gas as a Chemical?"

To assist him in proving the point and classifying the chemical uses of gas, Mr. Segeler presented a display of several dozen products in the manufacture of which natural gas is a raw material. Among these

tions: Where the gaseous material entering into the reaction is (1) unburned gas, (2) completely combusted gas, (3) partially burned gas, (4) cracked gas. After the morning session, interested groups milled about Mr. Segeler's display to inspect the samples at close range and to learn more of this challenging market for our products.

New Open-Flame Applications

Sticking to the "new uses" theme, A. M. Thurston, supervisor, industrial and commercial gas sales, The East Ohio Gas Company, Cleveland, discussed "New Developments in Open-Flame Heating and Their Importance to the Gas Industry," giving rather complete data upon four rapidly expanding new uses of gas flames which transfer their heat directly to the work rather than through the media of radiators, circulated air, conduction, or multi-walls—to wit, the flash baking of varnishes on metal sheet, the continuous direct flame annealing of wire, metallizing or metal

spraying, and city-gas-oxygen torch work. Slides of installation photographs were used, and actual sample pieces processed by the various methods were distributed to the audience for inspection. Savings in fuel, time and labor made possible by these newer heating methods were emphasized.

At this point, A. H. Koch, Surface Combustion Corp., Toledo, presented a valuable paper on "Load Building Through Packaged Industrial Gas Equipment." Mr. Koch's paper was published in the April issue of the A. G. A. MONTHLY, starting on page 133.

Right—E. M. Tharp, vice-president and general manager, The Ohio Fuel Gas Co., making the feature address at the Thursday luncheon. On his left are Chairman Rainey and Major Alexander Forward, A. G. A. managing director. Below—Clayton S. Conkright, Newark, leads a red hot panel discussion on Metal Treating and Melting



Sell Service and Processes—Not Equipment or Fuel

Featured speaker of the conference at the Thursday luncheon was E. M. Tharp, vice-president and general manager, The Ohio Fuel Gas Company, Columbus, well known for his advanced appreciation of industrial gas sales possibilities. Said he, "We are on a new frontier; not a frontier of conquest, but one which begins in the minds of men and extends into the realms of science, technology, government, and human relations . . . nothing works which fails to check with human nature . . . and the three constants of human nature involved in all progress are human habit, human drive, and human ingenuity." Salesmanship is merely another word for the solution of human idiosyncrasies, according to Mr. Tharp, and "We must not sell gas as a commodity—but as a service, as a process, as a means to desirable ends."

The conference was honored to have Major Alexander Forward, managing director of the American Gas Association, speak briefly at the luncheon session concerning the youthfulness, energy, and aggressiveness which nationally characterize the industrial sales branches of our enterprise, and to pre-

dict greater national recognition of those activities to which the conference was dedicated.

Industrial Windows, A Proven Technique

Frank H. Trembly, Jr., assistant sales manager, The Philadelphia Gas Works Company, presided at the afternoon business session, addressed by Lloyd C. Thomas, Michigan Consolidated Gas Company, Detroit, and Kendall B. Castle Jr., industrial engineer, Rochester Gas and Electric Corporation.

"The Detroit Experience with Window



Displays of Gas in Business," the longest and most complete on record in the field, was described in detail by Mr. Thomas, whose slides of fifteen downtown window displays, all concerning the part played by gas in the manufac-

ture of nationally known products produced in Detroit, were analyzed with respect to emphasis, lighting, story told, seasonableness, and sales effectiveness. "Flops" as well as "hits" were studied.

In evaluating "Factors Involved in Merchandising Gas Air Conditioning," Mr. Castle made an important contribution to the conference. His paper is reproduced in full elsewhere in this issue of the MONTHLY.

Experts Couldn't Be Stumped

Before adjourning for the day, the conference found that parlor games can be adapted to the serious business purpose of learning your job better. When R. Louis Towne, sales promotion manager, Surface Combustion Corp., took to the teacher's desk and lined up six experts to stand the fire of prize-winning questions submitted for a "Stump the Experts" session, all manner of things started to happen. The experts: Albert A. Schuetz, Milwaukee Gas Light Co., Milwaukee; Henry M. Heyn, sales manager, Surface Combustion Corp., Toledo; F. B. Jones, general sales manager, Equitable Gas Co., Pittsburgh; C. George Segeler, American Gas Association, New York; William J. Harris, Jr., Laclede Gas Light Co., St. Louis; Frank H. Trembly, Jr., The Philadelphia Gas Works Co.—

proved to be really experts—as well as competent advertisers of A. G. A. textbooks and manufacturer-company-published data cards. Specific heats, relative procedure merits, computational methods, and metallurgical anomalies were bandied with ease. Only three balloons were broken (balloon-bursting replacing the gong), although prizes contributed by industrial gas equipment manufacturers were distributed, not to the experts, but to those who had submitted prize-winning questions.

Infra-Red Heating Clinic Clears the Air

The lead-off feature of the Friday sessions, the Clinic on "Near-Infra-Red Ray Heating," was to many the high point of the conference. Hale A. Clark, Michigan Consolidated Gas Co., Detroit, opened with a definition of near-infra-red ray heating as "radiant heating from incandescent bodies at temperatures of from 3500 to 5000° F.," noting that the composition of the incandescent body is incidental.

Evidence was introduced to prove that any results obtainable with electric infra-red ray heating could be obtained with gas equipment, although it was pointed out that infra-red ray heating (whether electric or gas) was subject to many criticisms as a general means of finish baking. The significant effects on rate of heating of (1) concentration of radiation, (2) heat absorbing properties of heated object, and (3) distance of object from radiating body, were all pegged. The difficulty of maintaining even temperatures throughout charges or loads was also noted.

The Honorable David Edwards (left) turned out to be a magician as well as a good industrial gas man. He seems to be using Frank H. Adams, president, A.G.A. E.M. (standing, right) as a stooge. William E. Whalen, Electric Auto-Lite Co., featured speaker on Friday, is seated in front of Mr. Adams



An active scene at the registration desk. Left to right, E. L. Fleming and Harry A. Sutton of Newark, and A. H. Koch, Toledo



The field of metal coatings was classified with respect to chemical nature, properties, and cost, and it was shown that ray heating requires more costly and less durable finishes for satisfactory results. Two comparable production jobs in the city of Detroit were compared, and it was shown that fuel costs per thousand pounds of similar goods were roughly 4.2 times as much with electric infra-red ray baking as with gas-fired convection work along conventional principles.

It was concluded that radiant heating was not new to the gas industry, having for years been designed into luminous flame units for forging and the like, and into refractory radiant burners for a wide variety of uses—that radiant heating and convection heating both have their place, but that a balanced combination thereof is the stock-in-trade of enlightened equipment designers.

The presentation by Frederic O. Hess, president, The Selas Company, Philadelphia, was based upon researches currently being sponsored by the American Gas Association Committee on Industrial Gas Research which quantitatively demonstrate the difficulties of infra-red heating with respect to: (1) the shape and thickness of the work, (2) variations in color and type of finish, (3) differences in the finish of the metal upon which coatings are cured, (4) slight differences in the distance of various parts of the work from the lamps, (5) necessity for keeping reflectors permanently clean, and (6) "shadows" cast by conveyors or the work itself upon areas to be cured.

Considerable detail was given demonstrating the higher efficiencies and shorter curing times necessary for identical bakes with convection as over and against radiant heating, and it was shown that the radiant heating man's claim of curing the surface without bringing up the temperature of the body of the piece could be made equally well for recirculated air heating operating at high temperatures and high percentages of recirculation. The claim that near-infrared ray heating will permit shorter ovens was effectively blasted by comparing the

most *incompact* loadings necessary for satisfactory work with electric lamps to the very *compact* loadings permissible with high-velocity, uniform-temperature, interstice-penetrating convected air.

Don A. Jacobson, Burdett Manufacturing Company, Chicago, final speaker on near-infra-red ray heating, discussed actual installations of gas-fired near-infra-red ray heating jobs and displayed the burners themselves as well as production samples of beautifully finished work. He claimed satisfactory results even with white unrea-formaldehyde finishes such as are popularly used in domestic appliance finishing and which constitute the prime example of a finish unsatisfactorily handled with electric equipment. Said he, "Radiant gas burners can definitely out-manoeuvre any infra-red lamp

on the market today—will permit the use of 98-cent-a-gallon finishes—and offer actually reduced production times from day to shipping room."

It was the consensus of the clinic and the discussion which followed that electric near-infra-red ray heating, however dramatic, cannot seriously invade the convected-air finish-baking field—and, where it does have a place in production work, will be sore put to it to equal results obtainable with gas-fired radiant heating units.

Advocate More Cooperative Promotions

Three eras in the history of industrial gas salesmanship were delineated by H. Carl Wolf, president, Atlanta Gas Light Company, and chairman of the General Sales

(Continued on page 200)

Hotel, Restaurant and Commercial Sales Conference, May 30-31



Eugene J. Stern

THIS year the Hotel, Restaurant and Commercial Gas Sales Conference, sponsored by the Industrial Gas Section of the American Gas Association, will be held in cotton country—in Atlanta, Georgia, Atlanta Biltmore Hotel, Thursday and Friday, May 30 and 31—and a healthy representation is expected from many companies not usually able to send delegates to this leading event on the national commercial gas sales calendar.

Featured speaker will be Eugene J. Stern, vice-president, Georgia Public Utilities Company, and one of the younger, aggressive executives who have been "through the ropes" in almost every branch of the gas business, and who have had first-hand experience with sales to commercial establishments.

Two other highlights of the two-day meeting will be: A Sales Clinic in the fast-developing field of Volume Water Heating, participated in by W. H. Ligon, Atlanta Gas Light Co., Atlanta; A. V. Leudemann, Mears-Kane-Ofeldt, Inc., New York; and Walter G. Groth, The Burkay Co., Toledo;—and a Small Appliance Symposium and Demonstration, at which Harry A. Sutton, Public Service Electric & Gas Co., Newark; E. V. Fineran, Washington Gas Light Co., Washington; and Charles W. Gale, The Knoxville Gas Co., Knoxville, will speak from a platform display of the most modern, ingenious, and load-producing appliances available on the market today for commercial cooking and other purposes.

Robert J. Wilson, field secretary, National Restaurant Association, will interpret "The Partnership Between Restaurants and the Gas Industry"—and for this assignment he is ably equipped. Mr. Wilson has for many years been so close to gas and gas men that he is probably as well qualified to speak to the Conference in behalf of the nation's food purveyors as anyone in the restaurant business. As a wind-up feature, Franklin T. Rainey, chairman, A. G. A. Industrial Gas Section, will summarize the entire conference, not as a hash, but in the form of an interpretation entitled, "You've Heard It All—How Can You Put It To Use?"

Other subjects and the speakers will include: "How We Sell Commercial Space Heating," E. L. Stauffer, South Carolina Power Co., Charleston, S. C.; "Planning and Keeping Commercial Kitchens Modern," by John F. Mooney, Standard Gas Equipment Corp., Orlando, Fla.; "The Right Sales Punch for Increasing Our Business"; "Factors Influencing Beauty Parlor Equipment Sales"; "Building Sales through Dealer-Utility Cooperation," E. J. Shermie, Detroit Michigan Stove Co., Detroit, Mich.; "A Case Study of Gas Summer Air Conditioning in Miami Beach," C. D. Littlefield, Peoples Water & Gas Co., Miami Beach, Fla.; "Looking Forward with Commercial Gas Refrigeration," George S. Jones, Jr., vice-president and general sales manager, Servel, Inc., Evansville, Ind.; and "What Our Industrial Gas Publicity and Advertising Programs Mean to You," Harry W. Smith, Jr., American Gas Association.

Taking advantage of the cotton-country locale, the group dinner on Thursday night will take the form of a real Southern barbecue at North Fulton Park, and will be followed by all-negro entertainment, climaxing with a Georgia battle-royal.

F. T. Brooks, Philadelphia, and J. F. Swarner, Madison, Wis., inspect the panel display of items taken from the A. G. A. MONTHLY feature "Going Ahead with Industrial Gas"



Going Ahead WITH INDUSTRIAL GAS

A new stunt will be tried on May 31 at your 1940 Hotel, Restaurant and Commercial Gas Sales Conference in Atlanta. A complete exhibition of the latest in small gas appliances for commercial use will be hauled right up on the stage where Harry Sutton (Newark), E. V. Fineran (Washington) and Charlie Gale (Knoxville) will lead a Symposium on this class of equipment with actual examples at arm's length to analyze.

"Use the User!", urges Freddie Neuls (Brooklyn Union), "Happy bartenders freed from 'Morning Beer Losses' have sold more commercial gas refrigeration for us than any of our salesmen. We're emphasizing the bar-and-grill market this year because Brooklyn's barkeeps are so enthusiastic—and we know each installation will 'prove itself in' easily. That's important with a new type of gas-using equipment."

Hats off to a hotel and restaurant range manufacturer courageous enough to try a new, stylish finish on heavy-duty gas cooking equipment—for we've long needed more streamlining in the commercial kitchen. The "sweatshop" kitchen, you know, went out when the smart purveyors began to let the customers peek behind the curtain.

Many a regional industrial magazine can do a top-notch selling job for non-residential gas over a large and important circulation—but, obviously, your national A. G. A. Industrial Advertising must be restricted to national magazines, and your own company's sales advertising confined to the area you serve. What to do about good "in-between" media? In Massachusetts, my hearties, 37 gas utilities have each coughed up a modest ante—and, for 46 consecutive months, have taken a powerful 2-color page in *INDUSTRY* (one of the strongest trade papers in New England) to tell 1800 customers and prospects about what their next-door neighbors are achieving with gas.

Says *POULTRY ITEM* (February issue) after two years of testing all manner of gas and electric chicken brooders on its Research Farm, "The gas brooder gives splendid results . . . and we would not hesitate to purchase and use this type of brooder on any poultry farm." Many detailed virtues of gas brooders over others are also treated.

And, gentlemen, before our Food Industries Committee issued its Interim Bulletin 2-FI on the subject in 1939—there wasn't a gas brooder on the *ITEM'S* Farm!

Think of all the little gas flames under coffee urns and steam tables—then add up these national figures. 225 chain variety-store companies operate fountains and luncheonettes in some 4,100 stores; 450 chain drug outfits do lunch and soda business in 4,600 stores; and 240 other types of chains (cigar, confectionery, etc.) operate food departments in 4,000 stores. Altogether the 12,700 stands handle \$350,000,000 worth of fountain and luncheonette trade per year. You figure out what that means to our national non-residential gas load—and your own!

Every 2 seconds every working day some prospect or customer for non-residential gas reads (in a trade, technical or business magazine) one of the 500 articles, features or news items prepared for publication and placed by your Industrial Gas Publicity Committee in a year's time. Yes sir, the next time you watch a prize-ring referee counting out a pug, remember that 5 industrial gas prospects are reading about your product.

INDUSTRIAL AND COMMERCIAL NATIONAL ADVERTISING FOR MAY

The National Advertising Committee of the Industrial Gas Section, J. P. Leinroth, chairman, and F. B. Jones, vice-chairman, announces that full-page advertisements will appear in the trade and business magazines listed below during the month of May. These advertisements are prepared in cooperation with the Committee on National Advertising as a part of the Association's national advertising campaign.

Metals Industry

THE IRON AGE (May 2) Low cost hardening of intricate steel parts . . . with GAS—Reading Screw Company, Norristown, Pennsylvania.
STEEL (May 13)
METALS & ALLOYS
METAL PROGRESS
INDUSTRIAL HEATING
HEAT TREATING & FORGING
THE IRON AGE (May 23) "Economical, efficient, eminently satisfactory" says Simmons Company, San Francisco, California, about GAS.
STEEL (May 27)

Hospitals & Schools

MODERN HOSPITAL Tuberculosis Hospital kitchen, part of Jersey City Medical Center, uses modern, up-to-date GAS equipment.
AMERICAN SCHOOL BOARD JOURNAL "Operations Superlative" with GAS, says food service director of Wyandotte High School, Kansas City, Kansas.

General Manufacturing

INDUSTRIAL POWER Forsberg Manufacturing Company, Bridgeport, Connecticut, finds GAS gives economies in handling and materials, provides better products.

Ceramic Industry

CERAMIC INDUSTRY Garland ranges are enamel-baked with efficient GAS—Detroit-Michigan Stove Company, Detroit, Michigan.

Food Industry

BAKERS HELPER (May 11) "Nothing so well suited to my needs" says manager, New System Bakery, Baltimore, Maryland.
BAKERS WEEKLY (May 4)
BAKERS HELPER (May 25) Dressel Brothers, bakery, Chicago, Illinois, says—"Wouldn't use any fuel but GAS."
BAKERS WEEKLY (May 18)
FOOD INDUSTRIES Albert Sheetz Mission Candy Company, San Francisco, California, produces 5,000 pounds of candy a day with help of quick, clean GAS fuel.

Hotels & Restaurants

HOTEL MANAGEMENT "We're very much satisfied with our GAS equipment"—Boulevard Cafe, Boston, Massachusetts.
AMERICAN RESTAURANT
CHAIN STORE AGE Isaly's downtown Pittsburgh food store uses GAS fuel and modern GAS equipment such as coffee brewers, ranges, kitchen toasters, steam tables and a GAS-fired central heating system.
(Fountain & Restaurant Section)

Processing Industry

CHEMICAL & METALLURGICAL ENG'G Garland ranges are enamel-baked with efficient GAS—Detroit-Michigan Stove Company, Detroit, Michigan.



Technical SECTION

F. M. GOODWIN, *Chairman*
D. P. HARTSON, *Vice-Chairman*
H. W. HARTMAN, *Secretary*

Production and Chemical Conference to Focus Attention on Technical Problems

OUTSTANDING contributions to the chemical and technical knowledge of the gas industry are expected to be made at the joint conference of the Production and Chemical Committees of the American Gas Association which will be held at the Hotel Pennsylvania, New York City, May 20-22. This annual conference is without

doubt the most significant meeting of the year for the engineers, chemists and production men in the gas industry. It brings together expert operating men from all parts of the country who exchange information, pool their experiences, and attack all manner of problems for the advancement of the industry.

A strong program, replete with new and constructive information, has been completed under the direction of an able program committee. S. J. Modzikowski, of The Peoples Gas Light & Coke Co., Chicago, as chairman of the Chemical Committee, directs that phase of the program. The production contributions have been arranged under the direction of W. K. Beard, of The Philadelphia Gas Works Company, who is chairman of the Gas Production Committee.

Important problems related to gas enrichment, oil cracking, purification, light oil recovery, peak load, pilot outages, coke formation, gas conditioning and other subjects will be dealt with thoroughly during the conference. The Association's executive leaders, headed by Clifford E. Paige, past president, and Alexander Forward, managing director, will take an active part in the meeting.

Of special interest is the series of round table luncheon conferences which will take place Tuesday afternoon, May 21. Designed to promote a frank exchange of views on all timely problems, these conferences have proven exceedingly popular and productive. The meetings will be divided into the following three divisions: 1. Coal Carboniza-

* The times noted on this program refer to Eastern Daylight Saving Time.



S. J. Modzikowski
Chairman, Chemical Committee



F. M. Goodwin
Chairman, Technical Section



D. P. Hartson
Vice-Chairman, Technical Section



W. K. Beard
Chairman, Gas Production Committee

tion and By-Products; 2. Water Gas Operation; 3. Chemistry in the Gas Industry.

Production and chemical men cannot afford to miss this conference if they want to keep abreast of the latest technical developments. The program below shows the comprehensive scope of the meeting.

MONDAY, MAY 20, 10:00 A.M.*

OPENING REMARKS—W. K. Beard, Chairman, Gas Production Committee, Philadelphia, Pa.

GREETINGS—Alexander Forward, Managing Director, American Gas Association.

ADDRESS—Clifford E. Paige, President, The Brooklyn Union Gas Company, Brooklyn, N. Y.

EFFECT OF MARKETING AND REFINING METHODS OF THE OIL INDUSTRY ON FUTURE AVAILABILITY OF RESIDUE ENRICHING OILS—A. E. Pew, Jr., Vice-President, Sun Oil Co., Philadelphia, Pa.

EMPIRICAL RELATION BETWEEN THE PHYSICAL CHARACTERISTICS OF AN OIL AND ITS YIELD AS DETERMINED BY A CRACKING TEST—W. F. Kugel and E. M. Bliss, Public Service Electric & Gas Co., Harrison, N. J.

Announcement—USEFULNESS OF "FUEL-FLUE GASES" BOOK—Louis Shnidman, Rochester Gas & Electric Corp., Rochester, N. Y.

MONDAY, MAY 20, 2:00 P.M.

OPENING REMARKS—S. J. Modzikowski, Chairman, Chemical Committee, Chicago, Ill.

SECOND PROGRAM
REPORT ON THE DETERMINATION OF WATER VAPOUR IN GASOLINE FUELS—Dr. A. W. Gauger, E. C. Todd, E. K. Schluntz, W. J. Wiseman, Pennsylvania State College, State College, Pa.

EVALUATION OF GAS PURIFYING MATERIALS—James W. Poney and Author

E. Sands, Boston Consolidated Gas Co., Everett, Mass.
LIVING ORGANISMS IN GAS PURIFICATION—Dr. G. E. Seil, E. J. Lavina & Co., Philadelphia, Pa.

TUESDAY, MAY 21, 10:00 A.M.

LIGHT OIL RECOVERY FROM COKE OVENS GAS—W. Tiddy and M. J. Miller, Solvay Engineering Corp., New York, N. Y.

MOTOR FUEL FROM COKE OVEN LIGHT OIL—B. J. C. Van der Hoeven, Koppers Co., Engineering & Construction Division, Pittsburgh, Pa.

SLUDGE INHIBITOR AND NOVEL STILL USED IN RECOVERING LIGHT OILS—O. W. Lusby and C. E. Utermohle, Consolidated Gas Electric Light & Power Co. of Baltimore, Baltimore, Md.

THE MANUFACTURE OF HIGH B.T.U. GAS FOR PEAK LOAD AND STAND-BY PURPOSES—H. M. Blain, Jr., New Orleans Public Service, Inc., New Orleans, La.

TUESDAY, MAY 21, 12:30 P.M.

ROUND TABLE LUNCHEON CONFERENCES

1. Coal Carbonization and By-Products.
2. Water Gas Operation.
3. Chemistry in the Gas Industry.

A frank discussion of subjects pertaining to the above divisions will be had at these Luncheon Conferences. No stenographic record of the discussion will be kept during the Luncheon Conferences, so be sure to be present.

WEDNESDAY, MAY 22, 10:00 A.M.

INFLUENCE OF PILOT DESIGN ON TENDENCY TO OUTAGE—R. M. Conner, Director, A. G. A. Testing Laboratories, Cleveland, Ohio.

DETERMINATION OF THE CAUSE OF PILOT OUTAGE—W. L. Shively, Boston Consolidated Gas Co., Everett, Mass.

FOUNDRY COKE—MEASURABLE CHARACTERISTICS—B. P. Mulcahy, Citizens Gas & Coke Utility, Indianapolis, Ind.

A STUDY OF THE THEORETICAL ADVANTAGES OF LOW AIR—STEAM RATIOS IN THE MANUFACTURE OF BLUE GAS AND CARBURETTED WATER GAS—J. Hawley Taussig, Jr., The Philadelphia Gas Works Co., Philadelphia, Pa.

WEDNESDAY, MAY 22, 2:00 P.M.

REPORT OF GAS CONDITIONING COMMITTEE—L. J. Willien, Chairman, Public Utility Engineering & Service Corp., Chicago, Ill.

COMPARISON OF DIFFERENT PACKINGS IN ABSORPTION AND STRIPPING—Prof. C. C. Furnas, Yale University, New Haven, Conn.

STRESSES AND STRAINS GENERATED DURING CARBONIZATION—V. J. Altieri, Eastern Gas & Fuel Associates, Everett, Mass.

OPEN FORUM—Reports of Luncheon Conference Chairmen.

Eliminating Deposits From Gas Appliance Control Valves

AFTER several years of experimentation by Professor O. L. Kowalke, chairman of the Department of Chemical Engineering, University of Wisconsin, indications are that a method has been found of eliminating the deposits which accumulate in the control valves of gas appliances during the spring of the year. This development was reported March 12 at the annual convention of the gas section of the Wisconsin Utilities Association.

According to Professor Kowalke, the deposits result from the condensation of hydrocarbons and their accumulation in the gas holders during the cold, sunless days of January and February. The hydrocarbons are products in the manufacture of gas by the water gas process and ordinarily remain in a vapor state.

However, in the depth of winter the hydrocarbon vapors condense and float on the water seal of the holder. In the spring of the year the combination of warmer and sunnier days results in the revaporization of the accumulated condensate and this amount, together with that currently produced, is sufficient to result in deposits in control valves.

In a series of laboratory tests, Professor Kowalke was able to avoid almost entirely a deposit after the offending hydrocarbons had first been incorporated in samples of manufactured gas by passing the gas through gas oil.

Professor Kowalke has advised that deposits can be prevented to a great degree by removal of condensate from the holder water seals in the summer time and by the addition of gas oil to the condensate during January and February. This latter course, he explained, would greatly reduce the evaporation of condensate in the warmer months.

It was well-known that the deposits occurred only in the spring of the year, and for this reason it has been suspected that the problem was related to temperature. However, much of the data could not be

correlated with temperature and it was realized that unknown elements were involved.

In the course of his studies the professor observed that the greatest deposits were found in areas adjacent to gas holders. Additional investigation led him to believe that the effect of solar radiation offset temperature and accounted for the variations which previous investigators had observed.

An examination of the deposits found in gas appliances and the results of his investigations enabled Professor Kowalke to formulate the hypothesis which ultimately led to the solution.

The method recommended by Professor Kowalke has already been adopted by one of the large utilities in the state with gratifying results. The experiments leading to the discovery were conducted with the assistance of several of the gas utilities of the state.

Distribution Conference May 7 to 9 in Houston

The seventeenth annual Distribution Conference, sponsored by the Association's Technical Section, will be held May 7-9 at the Rice Hotel, Houston, Texas, in conjunction with the Natural Gas Section convention. C. H. Waring, chairman of the Distribution Committee, is in charge of the program which covers a broad field of useful information.

Details of the program and other highlights were covered in an article in the April issue of the A. G. A. MONTHLY starting on page 157. Information on the Natural Gas Section convention appears on page 140 of the same issue.

Application of Well-Test Data

THE importance of subsurface temperature data to the study of subsurface leakage of fluid from gas or oil wells is illustrated by a report just published by the Bureau of Mines, United States Department of the Interior.

The report includes data obtained in three series of tests of conditions in a gas well in the Buffalo field, Leon County, Texas, that was subject to an unaccounted-for decline in shut-in wellhead pressure from about 2,295 to 1,445 pounds per square inch gage. The first study was made to determine the existence and character of subsurface leakage or migration of gas from the well. Two other series of tests were conducted after the well had been reconditioned to determine the effect of the remedial measures on the rate of leakage, and, in turn, the effect of elimination or reduction of subsurface leakage on well pressures and temperatures.

The results of the whole study indicate: (1) The flow of gas from the reservoir about 5,950 feet below the surface to the thief sand about 2,200 feet below the surface had raised the temperature at that horizon about 32° F. higher than normal well temperature at that depth; (2) the well temperature at that horizon still was 30° F. above normal about 2 months after the well was reconditioned; and (3) the well temperature was 25° F. higher than the normal well temperature at the 2,200-foot horizon about 11 months after the well was reconditioned.

The authors, M. A. Schellhardt, E. J. Dewees, and W. H. Barlow, supplement the well-pressure, temperature, and productivity data obtained in the field with information regarding well tests and gas withdrawals recorded throughout the history of production operations in the field. The study was conducted by the Bureau of Mines in cooperation with the Natural Gas Section of the American Gas Association. Copies of Report of Investigations 3493, "Application of Well-Test Data to the Study of a Specific Gas-Production Problem" may be obtained without charge from the Information Division, Bureau of Mines, Washington, D. C.

Gas from Sewage in Italy

THE General Italian Petroleum Company is to erect in Genoa what is said to be the first plant in the world for the generation of methane gas from sewage and garbage, according to newspaper reports. The Italian company will distribute methane in certain zones through the regular street mains. Italy, it is stated, is finding it so hard to obtain coal that she has now turned for gas to garbage and sewage.

HELPFUL HINTS

DESCRIPTION OF ALTERATIONS AND REPAIRS TO STORAGE HOLDER AT WESTFIELD NEW JERSEY

By John J. Crilly, Supt. of Production
Elizabethtown Consolidated Gas Co.,
Elizabeth, N. J.

A RECENT inspection of our 750 M cu.ft. three-lift storage holder at Westfield, New Jersey, disclosed considerable active corrosion at the cup water lines, both on the grip dam sheets and the lower course shell sheets.

This holder, having been erected some 25 years ago has only 8" cup and grip channels and the clearances between the dam sheet and the lower course of shell were so little that it was almost impossible to properly clean and paint at the water lines.

Realizing that this corrosive action could not go on indefinitely without serious damage to the metal, as well as the problem confronting us of not being able to properly clean and paint due to the close clearances, it was decided to remove the old dam sheets and install new ones in such a manner as to provide ample clearance for inspection and painting. This was accomplished by installing a

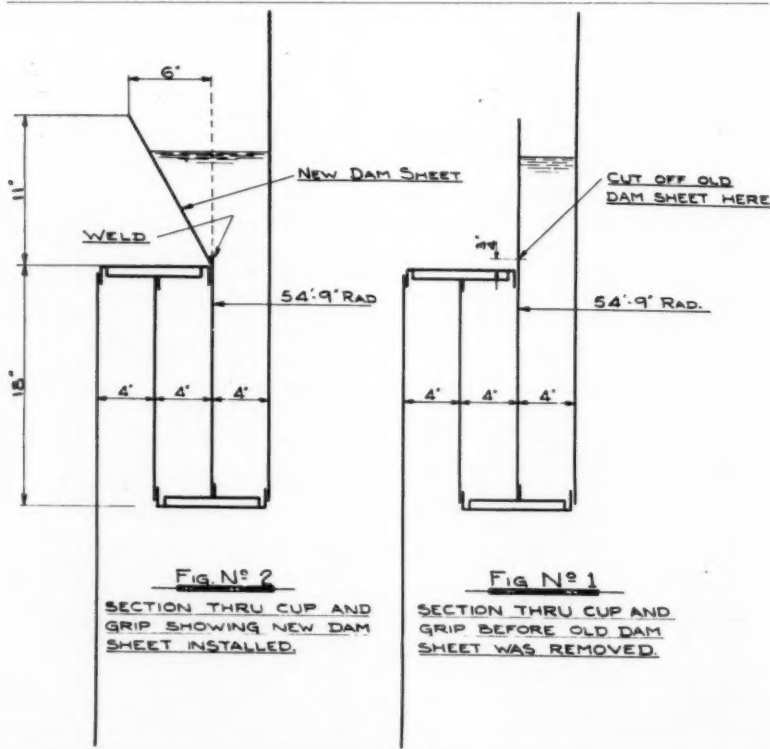
conical or sloping dam sheet as shown in Figure 2.

Before proceeding with the actual installation, however, the difference in the original and the resultant water levels in the cups was calculated and it was found that the resultant level would provide ample seal.

The holder was then taken out of service, thoroughly purged with inert gas and the inlet and outlet pipes disconnected before any actual work on the repairs was started. Thus making sure that there were no inflammable gases present, we proceeded to burn off the old dam sheets about $\frac{3}{4}$ " above the grip channels. The new or conical dam sheets were prefabricated to the proper radii in approximately 10' lengths for field welding.

These sections of plate were set in place and continuously welded to the grip channel on the underside and to the $\frac{3}{4}$ " projection of the dam sheet on the top side. At the carriages the plates were butted against the carriage frame on either side and a short section of plate was set in between the carriage struts. These plates were welded to the carriage frame on all sides thus making the dam sheet continuous around the lifts.

Possibly it should be noted that the



sloping dam sheets make it a little more difficult for a man to walk around the lifts on the grips but we believe that the improvement in access for cleaning and painting the water lines is well worth the sacrifice.

While the above work was in progress the holder was dewatered and cleaned out, removing all dirt and muck from the tank and cups and a very thorough internal inspection made.

As a result of this inspection minor repairs were made to the permanent frame guide rollers, etc., before the holder was placed back in service.

We want some "Helpful Hints" from you. Please send your contributions to H. J. Meredith, Chief Chemist, Koppers Company, Seaboard Division, Kansas City, Mo.

Oil Reserves Ample Gas Men Told

THE nation's growing reserves of petroleum and the petroleum industry's successful efforts to combat waste are significant examples of continuing ability to meet the demands for oil products, Fred Van Covern, of New York, director, Department of Statistics, American Petroleum Institute, told the New England Gas Association March 14.

Stressing the absurdity of warnings of an approaching shortage of oil, Mr. Van Covern discussed in detail the significance of the expanding estimates of proved oil reserves and declared that supplies will be ample for generations. Any conceivable needs of petroleum for national defense or other emergency also may be satisfied, he concluded, for "our national production, transportation, and refining facilities include ample excess capacity to meet the needs of any possible emergency for the national defense and for other essential needs."

Trends toward the use of greater quantities of petroleum oils by the gas industry and toward the use of heavier fuel oils in the manufacture of gas were described by Mr. Van Covern. But although the gas industry has increased its use of fuel oils, he said, this increase has not been as rapid as the gain in the total demand for petroleum with the result that the gas industry as a whole required in 1938 only about 1.28 per cent of all the crude oil processed, compared with about 1.57 per cent in 1929.

He traced briefly the development of the industry from its beginnings in 1859 to the present, showing the importance of change in the proportions of various products made from crude oil.

"Yields of gasoline, the petroleum industry's principal product, have constantly increased as demand grew," he said, "and it is readily apparent that as they also increase, the portion of the barrel of raw material that can be made into other products declines proportionately. This has not affected the gas industry, however, because it is not asking for as great a portion as formerly."



Laboratories

N. T. SELLMAN, Chairman, Managing Committee

R. M. CONNER, Director

W. H. VOGAN, Supervisor, Pacific Coast Branch

Requirements for Commercial Gas Cooking Equipment

AT the forty-fifth meeting of the Approval Requirements Committee held on March 21, 1940, recommended revisions to American Standard Approval Requirements for Hotel and Restaurant Ranges were reviewed and approved with minor revisions. A tentative set of standards covering deep fat fryers was also considered and likewise approved. Both become effective January 1, 1941. Mimeographed copies of these standards have been prepared and distributed to interested manufacturers so that ample time will be given for anticipation of their provisions in new production. Both sets of standards are being placed in the hands of the American Standards Association for acceptance as American Standard.

One of the principal revisions to the current requirements for hotel and restaurant ranges is their extension to cover unit broilers as well. Necessary changes in test gases and test pressures have been incorporated in line with the recommendations made by the Subcommittee on Test Gases and Test Pressures. A section has been added covering heating capacity of hot top ranges which specifies a minimum speed of heating for such tops.

Provision has also been made for a permanent marking of models provided with detachable legs or bases, the removal of which may affect operation, by requiring a statement "For Use Only With Legs or Ventilated Base." The former section covering performance tests on propane gas has been further extended to include all liquefied petroleum gases, thus permitting approval of equipment of this type for such products.

New standards covering deep fat fryers were developed as a result of a considerable amount of study and investigation of performance of contemporary equipment by the supervising committee. In order to indicate definitely that these requirements cover only fryers used for hotel, restaurant, club and similar purposes, they have been entitled "American Standard Approval Requirements for Hotel and Restaurant Deep Fat Fryers." Quantity of cooking fluid is limited to 300 lb. or less. They cover not only city gases, but liquefied petroleum gases and butane-air gas as well.

In addition to providing thoroughly for all necessary constructional features, performance tests designed to reproduce conditions under which they will operate in practice have been included. Heating ca-

pacities must be such as to develop an adequate frying temperature within a given time from a cold start. Limitation is placed on the temperature rise of heated surfaces in contact with the cooking oil. Temperatures near the bottom of crumb receptacles which are a required part of all deep fat fryers must be at least 100° lower than the top temperatures of the cooking fluid. Compliance with these details was felt necessary to assure satisfactory operation of such equipment under all conditions of use which it will be called upon to meet in practice.

Although these requirements do not become effective until January 1, 1941, any manufacturers desiring to do so may submit their equipment for test for compliance with them in advance of that date. Further information may be obtained by addressing the American Gas Association Testing Laboratories.

Home Economics Class Sees Laboratories

A GROUP of 16 students of the Home Economics Department of Iowa State College visited the Cleveland Laboratories on March 19. The party was in charge of Miss V. Enid Sater, assistant professor of the Department of Household Equipment, of the college. This marked the third consecutive year in which a visit was paid the Laboratories by this group in the course of its annual tour of inspection of industrial plants and other points of interest in this territory.

The Household Equipment Department of Iowa State College has been greatly interested in the work of the Laboratories and has recognized them as an outstanding example of an agency devoted to the protection of the consumer by the preparation and application of equipment standards. Annual visits to the Laboratories have supplemented class instruction covering domestic equipment.

After an informal talk covering the development of the Laboratories and the program in which they are engaged, detailed inspection of their facilities was made by the students. All displayed remarkable interest in the various testing and research operations under way. This was particularly true in the case of gas ranges with which

the students had become quite familiar in the course of their classroom work where they had carried out certain of the tests called for by the range approval requirements.

Pipe Lines Occupy Unique Position

OIL and gas pipe lines occupy a unique position in American transportation history because they virtually are the only form of transportation which has paid its own way, in entirety, throughout 75 years, without benefit of public aid, and at the same time have contributed largely to reductions in prices of petroleum products. These findings are presented in the monumental report on "Public Aids to Transportation" released by Commissioner Joseph B. Eastman, chairman of the Interstate Commerce Commission, and former Federal Coordinator of Transportation.

"The public aids given the pipe-line industry are negligible," the report states. "A very specialized form of transportation, it has played a part in bringing down the prices of petroleum products and natural gas. The industry has prospered without public aid or the expenditure of public funds. In these respects it is largely unique."

Gas Men at Work



Photo by A. Gordon King

Welding gas main, midtown on Sixth Avenue, New York, during re-location of sub-surface structures required by subway construction. Helper, welder and torch flame may be seen between kibitzers' legs

TOLEDO INDUSTRIAL CONFERENCE

(Continued from page 154)

Committee, Industrial Gas Section—to wit, the era of cheap gas, the era of industrial and engineering expansion, and the current era of salesmanship. "Industrial gas is sold on the basis of savings and service to the customer . . . and among the tools which we all must use are: study of the customer's business, research and engineering development, printed sales helps, and showmanship."

Tribute was paid by Mr. Wolfe to the Association's industrial advertising, publicity, and display activities, and to the part equipment manufacturers play in selling industrial gas. "We must encourage more cooperative promotion, and the development of better equipment," he said, "and strive to materialize the slogan, 'The ideal gas company is the one that supplies all the heat requirements of the community it serves!'"

In closing, the three objectives of the new General Sales Committee were again stated as: (1) to emphasize for the benefit of the industry and its executives the importance of gas for industrial and commercial purposes and the necessity for additional sales power, (2) to assist industrial gas sales departments in sales plans and programs, (3) to encourage further manufacturer-gas-company cooperation in the development of industrial and commercial gas sales.

Customer's Viewpoint

The customer spoke when William E. Whalen, supervisor of all fuel and fuel-using equipment purchases for 21 plants of The Electric Auto-Lite Company, took the floor and outlined his company's use of gas in the manufacture of no less than 60 vital automotive products. He contended that, "although the gas industry's legal responsibility may end with the meter, its implied responsibility carries throughout the customer's plant until the last practical B.t.u. is utilized—and therefore, that service should be incorporated in the sales price of your product." Cautioning the industrial gas man against neglect of the small customer whose competitive position against his larger brothers is based upon ingenuity of practice, Mr. Whalen suggested, "If your load will not support man power to serve the little fellow, maybe that's why you do not have more of his load."

After such a heavy session, the Honorable David Edwards and his légère-de-main at luncheon was welcome relaxation. Ere he finished (and he's a good industrial gas man, too), Ralph Wenner was wearing paper hats and smoking seven cigarettes at a time, Frank Adams was looking foolish in a quest for elusive half-dollars, and the crowd was roaring.

Air Conditioning, Metals, and Hot Water

The wind-up feature—three concurrent panel discussions supervised respectively by

the Process and Comfort Air Conditioning, Metal Treating and Melting, and Volume Water Heating Committees, gave everyone a chance to "shoot his wad." One hundred twenty-five conferees participated in these free-for-alls.

Charles R. Bellamy, Columbia Gas & Electric Corporation, New York, opened the air conditioning discussion by outlining his committee's suggested program that fifteen or twenty of the larger utilities each hire a competent, experienced air conditioning engineer to study the field in every aspect; enlist the cooperation of dealers, architects and contractors; and produce recommendations, prospect lists, and promotional stimulation. A series of 15-minute discussions led by the manufacturers themselves concerned, respectively, the Silica Gel, the Kathabar, the activated alumina, the Williams Air-O-Matic, the Servel, and the Mills systems of gas-fired air conditioning. Finally, the meeting considered, in turn, the domestic, commercial and industrial markets for gas air conditioning. It was agreed that the commercial and the industrial, only, offered lucrative immediate prospects, and the place of the split system in obtaining this business was emphasized.

The metal treating and melting group, led by Clayton S. Cronkright, Public Service Electric and Gas Company, Newark, N. J., discussed the matter of furnace atmospheres and the wide divergence of opinion as to what constitutes desirable protection. Part of the session was also devoted to the new open-flame heating methods treated from

the platform by Mr. Thurston on the previous day. Several of the men commented on recent improvements in furnace construction and the influence being exerted upon equipment design by recent metallurgical developments.

Lawrence E. Biemiller's Volume Water Heating Committee hewed to 180° water for dishwashing and sterilization, and considered in detail the Burkay, Sellers, Hydro-Therm, and counter-type systems. The use of new improved water mixing valves was encouraged as the practical means of obtaining better large-volume-water-temperature constancy under highly varying rates of flow.

That was the conference—a round breaker—with respect to attendance, interest and value to the industry! Ralph S. Wenner, The Ohio Fuel Gas Company, chairman of the Committee on Program and Papers, assisted by R. Louis Towne, Surface Combustion Corporation, who arranged the Thursday night dinner and provided a first-class evening's entertainment, contributed more than is apparent to the two-day highlight of the 1940 industrial gas year. Hale A. Clark, Michigan Consolidated Gas Company, Homer T. Hood, Battle Creek Gas Company, Merle Martin, Public Service Company of Indiana, and A. M. Thurston, The East Ohio Gas Company, as well as Franklin T. Rainey, chairman of the Section, all as members of Mr. Wenner's Committee, ably assisted both in the preparation of the program and in successfully carrying it out.

Personnel Service

SERVICES OFFERED

Salesman. 10 years utility, good education; gas and electric appliances, illumination sales; capable of training dealers, and salesman. Employee prospect building, cooperative advertising and promotion experience, A. G. A. sales course completed; distribution and production experience; (29) 1354.

Sales Supervisor (38) single—excellent contact man—12 years' experience directing salesmen selling gas service direct to consumer. Desires change—willing to travel. 1356.

Man capable of taking charge of a gas meter repair shop or service department desires to become associated with a progressive and growing gas company. Now employed as superintendent of a meter repair shop. 1359.

Gas Salesman and Combustion Engineer. Four years' experience in marketing industrial commercial and heating gas. Experienced on design, installation and servicing gas burning equipment. Capable of making industrial surveys. Familiar with chemistry of combustion and methods of making tests of efficiency of utilization. Now employed. 1360.

Advertising and public relations man. Eighteen years' advertising agency and public utility experience in, appliance educational, institutional and customer contact advertising copy, also cooperative dealer campaigns and employee information courses. 1361.

Executive or assistant, dependable, good judgment, diversified experience, management.

Twenty years' gas utility experience, natural and artificial, operation and maintenance. Some civil engineering experience. (45) 1362.

Graduate mechanical engineer, fifteen years' experience in gas utilization field. Superintendent large manufactured gas company testing laboratory for many years and in past five years connected with domestic and hotel equipment manufacturer in responsible position. Thoroughly familiar with utility and manufacturing side of appliance design and performance. (38.) 1363.

Development Engineer well versed in the design of appliances, controls and safety devices. Experience in the sales application of equipment furnishes a well balanced knowledge of manufacturing and sales problems. 1364.

Distribution Engineer, 8 years' experience in design, maintenance and operation of high and low pressure transmission and distribution systems. Knows leakage mitigation, gums, corrosion and pipe coatings. Familiar with gas manufacture. Rate case and expert court testimony experience. Graduate Chemical Engineer, Licensed Professional Engineer, married (36.) 1365.

POSITIONS OPEN

Test engineer on gas and oil burning domestic ranges and heaters. Must be technically graduate with knowledge of combustion problems. Location—New England. 1366.

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